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AN INTROSPECTIVE INQUIRY INTO WHAT AND HOW PRESERVICE  
PHYSICAL EDUCATION TEACHERS OBSERVE IN AN UNGUIDED, EARLY  
FIELD EXPERIENCE

*The University of North Carolina at Greensboro*

Ed.D. 1984

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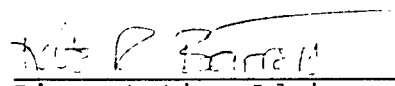
by

Pamela C. Allison

A Dissertation Submitted to  
the Faculty of the Graduate School at  
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of the Requirements for the Degree  
Doctor of Education

Greensboro  
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APPROVAL PAGE

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## ABSTRACT

ALLISON, PAMELA C. Ed.D. An Introspective Inquiry into What and How Preservice Physical Education Teachers Observe in an Unguided, Early Field Experience. (1984) Directed by Dr. Kate R. Barrett. Pp. 122.

The purpose of this study was to describe what and how preservice physical education teachers observe in an unguided, early field experience. Six junior-level physical education majors at the University of North Carolina at Greensboro were asked to observe as nonparticipants three elementary school physical education lessons, one each in educational games, educational gymnastics, and educational dance in a field experience setting. They were given no specific directions as to what to look for or how to look for it.

Two introspective research techniques were used to gather the data: thinking aloud and stimulated recall interview. The preservice teachers thought aloud into tape recorders what it was they were seeing as they observed the three lessons. All lessons were videotaped. After the lesson observations each preservice teacher was interviewed individually by the investigator. During the interview they were asked to account for their observations. The videotape and the thinking aloud protocols were used to stimulate the teachers to recall what they had seen.

Both the thinking aloud and stimulated recall interview protocols were analyzed using a constant comparative



analytic strategy in order to describe the content of and the perceptual processes used by preservice physical education teachers while observing physical education lessons. The findings are summarized as follows:

1. The preservice teachers in this study reported observations about students' movement responses, organizational tasks and patterns, and nonmovement characteristics of students.

- a. Observations about the students' movement responses were most often made in the activity dimension of the body aspect. Some attention to detail in the students' movement, however, was noted in that these observers were able to attend to two and sometimes three dimensions of movement at one time.

- b. Observations about organizational tasks and patterns seemed to be reported only when they were shifted by the teacher during the lessons.

- c. Observations about nonmovement characteristics of students were primarily about student enjoyment, their ability to follow directions, and their ability to listen.

2. Observers in this study relied upon (a) expectancy set, (b) contrast, and (c) evaluation as a part of perceptual process.

- a. Expectancy sets were found to be rooted in the verbal behavior of the field experience teacher,

the preservice teachers' teacher education curricular experiences, and their own personal background experiences.

b. Speed of movement was the most compelling stimulus feature to be contrasted by these observers.

c. The preservice teachers evaluated what they were seeing in every lesson across all content categories most of the time.

3. Rudimentary strategies of observing were evidenced by the preservice teachers. Strategies involved where to look, what to look for, and what processes to employ or refrain from.

4. There appeared to be no relatedness between the content of observing and the perceptual processes employed while observing by preservice physical education teachers in an unguided, early field experience.

## ACKNOWLEDGMENTS

It is with a deep feeling of gratitude that I acknowledge the contributions of the members of my committee to my quest for knowledge and understanding: especially, Kate R. Barrett, chair, whose professional example is unequalled; Pearl Berlin, whose constant encouragement was a source of motivation; D. Michelle Irwin whose questioning expanded my understanding; Marie Riley, whose guidance and humor have stimulated me from the very beginning; Betsy Umstead, whose love and appreciation of the person in each of us helped me to keep my perspective.

It is a privilege to acknowledge the spirit of community that exists in the Physical Education Department at the University of North Carolina at Greensboro. I wish to express my appreciation to all persons past and present, who embody that spirit, for their support and encouragement.

Thanks go to my father whose strength was a source of encouragement which has remained even after his death.

It is with special thanks that I recognize my husband and friend, Steven W. Hill, for his contribution to my growth and development. He has the unique talent of knowing when to support me, scold me, encourage me, or just listen to me. I shall always be grateful.

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## CHAPTER I

### INTRODUCTION AND SIGNIFICANCE

The physical education literature has a long history of emphasizing observing as a skill critical for effective teaching. As early as the 1930's Huelster (1939) stated that the ability to observe and analyze one's own and others' physical performance was a necessary skill for teachers. In 1949, Kretchmar, Sherman, and Mooney highlighted the importance of observing when they stated that "the ability to observe is sufficiently independent of other performance abilities to require special treatment in its own right, if physical education teachers are to be well prepared" (p. 242). More recently there seems to have been a renewed emphasis on the importance of observing as a critical teaching skill and the suggestion that teacher educators examine the role observing plays in their teacher education programs (Arend & Higgins, 1976; Barrett 1977a, 1983, 1984c; Bressan & Weiss, 1982; Hoffman, 1982).

In order to develop skill in observing, preservice teachers need guided practice throughout their professional preparation programs. The early field experience component of teacher education programs is often a context in which observational skill is needed and practice in

observing can occur. Therefore, the study of observing in early field experiences becomes important for three reasons. First, it is known that observing has been reported as the most frequent type of activity expected of preservice teachers by teacher educators in early field experiences (Southall & Dumas, 1981). Second, the point has been raised that the value of early field experiences has been derived intuitively and that value is now being questioned (Bennie, 1982; Zeichner, 1980). There is little evidence to support the notion that more and earlier field experiences are a valuable component of teacher education curricula. Third, it seems only logical that the success of an early field experience in which preservice teachers are placed in the role of observers depends on their ability to observe skillfully.

The connection between the ability to observe and the success or lack of success of early field experiences is strong although relatively unexplored. This investigation was an attempt to study the preservice teacher in the role of observer in an early field experience. Kleine and Pereira (1970) warned that the development of skillful observing in early field experiences is harder to achieve than one might suspect.

What people see [or fail to see], when they observe a classroom, is influenced as much by what they bring to the situation as by what actually takes place in the classroom. People must impose some structure on what they observe, in order that they may see more than confusion or blankness. (p. 483)



In order to guide the practice of observing, teacher educators must first know what preservice teachers report they see and how they see when participating in an actual field experience. As a place to start, this study attempted to describe what and how preservice teachers observe without guidance in the role of nonparticipant observer in an early field experience. With the information of what and how the preservice teachers observe, teacher educators may be better able to plan field experiences as a context in which the development of skillful observing may occur.

#### Statement of Purpose

The purpose of this study was to describe what and how preservice physical education teachers observe in an unguided, early field experience. Through introspective methods, this study attempted to do the following:

1. Identify the content of selected preservice physical education teachers' reports of what is observed in the role of nonparticipant observer in an unguided, early field experience
2. Identify the perceptual processes characteristic of selected preservice physical education teachers in the role of nonparticipant observer in an unguided, early field experience
3. Identify the relatedness, if any, of reported content to perceptual processes used by selected preservice

physical education teachers in the role of nonparticipant observer in an unguided, early field experience.

#### Definition of Terms

The terms used in this investigation were operationally defined as follows:

Preservice Physical Education Teacher--an undergraduate student matriculating at an accredited four-year institution and preparing to teach physical education.

Perceptual Processes--the organizational, sensory, and cognitive actions employed to make observations.

Nonparticipant Observer--an observer with no responsibilities except that of observing (Barrett, 1977a).

Unguided, Early Field Experience--a prestudent teaching experiential learning opportunity "in which the learner is directly in touch with the realities being studied" (Keeton & Tate, 1978, p. 2), and in which the learner is given no guidance to direct his or her observational attention.

Introspection--a method of self-observation that includes several different, though related, techniques (Radford, 1974) and that yields information about one's psychological processes during an experience. Two of the techniques of introspection are thinking aloud and stimulated recall.

Thinking Aloud--one technique of introspection in which the subject verbalizes what he or she is thinking and seeing.

Stimulated Recall--one method of introspection in which some vehicle, most often a videotape, is used to stimulate a subject's recall of past events.

Protocol--an original record of verbal interaction.

Unit of Thought--that "portion of the report which is centered on a single idea, activity, or thought" (Bloom, 1954, pp. 26-27).

#### Research Assumptions

These ideas were accepted as given and were not investigated as part of the inquiry:

1. The field experience lessons designed for this study were representative of early field experiences for preservice physical education teachers at the University of North Carolina at Greensboro.
2. When asked, preservice teachers report what they see.
3. A verbal report of observations is a valid and reliable source of information concerning the observations and the perceptual processes used during the observations.

#### Scope of the Study

The limitations within which this study must be viewed are as follows:

1. The observations made were from the role of non-participant observer in an unguided, early physical education field experience.

2. The observations occurred during a physical education field experience conducted with a sixth-grade class at Price Traditional School which served as the University of North Carolina at Greensboro, School of Health, Physical Education, Recreation, and Dance, Physical Education Division's Field Experiences Center.

3. Data were collected during the spring semester, 1983.

4. The actual field experience consisted of a total of three 15-minute elementary school physical education lessons, one each in the curricular areas of educational games, educational dance, and educational gymnastics.

5. The lesson content and teaching methodologies used were consistent with the approach to elementary school physical education as espoused in Logsdon, Barrett, Ammons, Broer, Halverson, McGee, and Robertson (1984), Physical Education for Children: A Focus on the Teaching Process, and, therefore, limit the potential of what was reported to be observed.

6. The subjects in the study were six junior-level physical education major students enrolled in Physical Education 359, A Movement Approach to Dance and Sport, a required course in the teacher education sequence, at the University of North Carolina at Greensboro.

7. Data were collected using two techniques of introspective methodology: thinking aloud while observing and stimulated recall during a follow-up interview.

## CHAPTER II

### REVIEW OF LITERATURE

In this chapter, the literature as it relates to observing in an educational context is reviewed. Selected aspects of perceptual theory followed by information concerning introspection as a research methodology are examined. Finally, the literature as it relates to observing as a teaching skill is reviewed.

#### Selected Aspects of Perceptual Theory as a Theoretical Base for the Study of Observing

Any study that has observing central to its purpose necessarily needs to examine perception. Gregory (1974) has stated that in order to begin to understand perception one must select a paradigm of perception that is the most useful for the purposes of such understanding. Gibson's (1969) theory of perceptual development was selected because it offered the most potential for understanding observing as it was studied here.

#### Gibson's Differentiated Theory of Perceptual Development

Gibson (1969) defined perception as "the process by which we obtain first hand information about the world

around us" (p. 3). She stated that perception has two aspects: a phenomenal aspect or an awareness of stimulation and a responsive aspect or a discrimination and selection of stimuli. She asserted that environmental stimulation is already full of rich, varied, and complex information. It is the perceiver's task to extract and reduce the information in stimulation. The perceiver attempts to extract the information that is relevant for the perceptual task and filter out the irrelevant information. Gibson (1969) indicated that perception is not passive absorption of stimulus properties, but an active process in the sense of exploring and seeking information necessary to perform the perceptual task at hand.

Firth (1974) stated that "if all empirical knowledge is somehow based on perception, it becomes a matter of special importance for epistemology to know what makes a perceptual belief warranted" (p. 4). Thus, the epistemological problem of perception needs to be addressed. Gibson's (1969) view of perception relegates her to the epistemological position of a realist, that is, that the real world exists independently of the knower. In fact, Gibson has been criticized as being naive for taking the position of a realist (Gregory, 1974; Matlin, 1983). Gibson's position, however, was defended by Garner (1974) who stated that she was not a naive realist but was

instead what he called a critical realist. Although the independent existence of the real world is still acknowledged, the critical realist believes there is a critical aspect to perception. According to Garner (1974) this aspect is the contribution of rationality to the perceptual process by the perceiver. Rationality is evidenced in what the perceiver selects to attend to from all that is available in the stimulus array. He defined structure as the properties of a stimulus which are used by the perceiver to make selections. The perceiver does not create structure for stimuli but instead selects from the structure of stimulus features to make something meaningful from the environment.

If one accepts this epistemological position, one must acknowledge that environmental stimulation offers complex and changing information to the perceiver. Obviously, the perceiver cannot attend to all stimulus structure and must learn to extract and reduce the information to meaningful proportions. Thus, for Gibson (1969), perceptual learning becomes an increase in the ability to extract and reduce the stimulus information in the environment. This results from practice. She stated that what is being learned in practice is (a) increasingly more specific detection of the properties, patterns, and distinctive features of stimuli or the structure of stimuli; (b) the optimization of attention toward relevant information



in the stimuli; and (c) an increasingly economic search and pickup of information.

After having selected a paradigm of perception as a theoretical base for research, care must be taken to select a research direction that is congruent with the selected perceptual paradigm. Perception and perceptual learning as a function of the human organism have been researched in a variety of ways. One of the most popular ways has been to view the human organism as a processor of information. According to Schmidt (1982), this view, which is congruent with Gibson's (1969) theory of perceptual development, assumes that (a) information is available in the environment, (b) the individual accepts the information, and (c) the information is processed or coded by the individual. Schmidt (1982) proposed three stages of processing occur between the presentation of stimulus information and a response by the individual: (a) stimulus-identification, (b) response-selection, and (c) response-programming. The stimulus-identification stage involves an acknowledgment by the individual that a stimulus has occurred and been identified. It is with this stage that this study was concerned.

Schmidt (1982) stated that stimuli are most often perceived as a complex array. The individual tries to extract a pattern or distinctive features from the stimuli

presented. Schmidt (1982) presumed that the extraction and interpretation of stimuli are accomplished in the stimulus-identification stage. Before a response can be selected and programmed, the individual must have reduced the information in the stimulus to something meaningful for her or his purposes. For an investigator, then, the research task in perception is to determine the kinds of stimulus structure the perceiver selects and, as Garner (1974) has stated, to determine when structure is perceived and how it is processed.

The selection of stimulus structure has been of particular interest to educational researchers who have been studying the information processing of teachers. According to Clark (1980), the information-processing model of research on teaching sees the teacher as being faced with a complex teaching environment. He believes that in trying to cope with the environment the teacher simplifies it by attending to some structural environmental features and ignoring others. Joyce (1978-1979) stated that because all the features available are not attended to, it becomes imperative to know what influences the selection of features to be perceived.

Gibson's (1969) theory of perception was selected as a theoretical support for this study because her work

focused on the rich and varied information available in the environment. Physical education teachers have in their stimulus field students moving in an endless variety of ways. The teachers' perceptual environment is complex and changes from moment to moment as movement is not a static concept. The study of perception as a function of information processing of the perceiver provides insights into how one detects stimulus structure and selectively attends to information relevant to the perceptual task. Gibson's (1969) view on what and how this occurs served as the base upon which the data in this study were analyzed.

Three concepts related to Gibson's (1969) theory are discussed to give the reader an expanded understanding of some of the critical elements of her theory. These concepts are (a) perceived stimulus features, (b) perceptual processes, and (c) modes of perceiving.

#### Perceived Stimulus Features

Gibson (1969) has stated that the information in the perceptual environment is rich and varied. The question then arises as to which features of stimuli command the attention of the perceiver. Examples of stimulus features that may attract attention have been suggested by Gates (1968), a dancer; and Matlin (1983), a psychologist.

Gates (1968) stated that stimulus features such as (a) size, (b) shape, (c) sound, (d) intensity, and (e) speed will impose themselves on the perceiver. Matlin (1983) suggested the features of (a) color, (b) nearness, (c) similarity, (d) good continuation, (e) closure, and (f) common fate are used by the perceiver to help direct attention. These two lists are exemplary and not exhaustive.

In addition to listing and discussing particular features of stimuli, authors have made general statements concerning what and how one's attention is attracted toward stimulus features. Gates (1968) proposed that it is natural for our attention to be "attracted most readily to what is different, striking, and out of the ordinary . . . . Extremes and exaggerations or distortions of the usual or the average" (p. 33) capture one's attention. Arnheim (1969) offered some support for this proposition when he stated that the most constant feature of a stimulus was the most easily overlooked as well as the hardest to understand. Arnheim (1969) has also proposed that the features of similarity and contrast will be used when no other features dominate.

Garner (1974) has highlighted the importance of the perceptual task required of the observer and of the perceptual environment in which the task must be performed on

the selection of stimulus features. He stated that different perceptual tasks may cause the same feature to be functional at one time and not at another time. In addition, a variation in the perceptual environment may cause a feature formerly considered irrelevant to become a relevant feature because of the nature of the variation.

The information content of any situation can be identified and analyzed according to the features present in the stimulus information. Fisher (1981) has reported that the emphasis of such analysis has usually been the stimulus feature information available for processing and not the processes themselves.

#### Perceptual Processes

It has been illustrated that perceptual task demands and the perceptual environment interact with stimulus information to effect which features are perceived. Although most study in this area is concerned with what is perceived, there is some evidence to suggest that the perceptual task and environment also affect processing strategies for perceiving (Gibson, 1969).

Norman and Bobrow (1975) reiterated the commonly held belief that there is a pool of possible resources for perceptual processing. Processing is thought to be limited by the amount of resources available to be used at any one time. They projected that the rate at which

each process operates is determined in part by the processing resources allocated to each. The fewer the total processes necessary the more resources each process has. Norman and Bobrow (1975) concluded that perception in a task demand with broad, general requirements may be limited by the resources available for processing. Similarly, perception in a task demand with a narrow, specific focus may not be limited by the available processing resources but may be limited by the amount of information available in the environment. Arnheim (1969) has also concluded that the observer perceptually differentiates information only to the extent that the purposes of the observational task demand it. The implication is that there is a difference in the processing strategies for different perceptual tasks.

Newtson's (1976) metaphor for perceptual processing as a kind of perceptual grammar is useful in examining how one processes environmental information. Grammar guides the organization of words into sentences. He stated that "human observers have a 'range of analysis' in behavior perception, from fine-unit segmentation to large-unit segmentation within which they operate" (p. 115). This range of analysis guides the perceptual organization of the observer. Where a person operates within that range is dependent on the behavior being observed and the situational constraints. For example, an unexpected interruption in the behavior stream will cause a shift to a

finer unit of analysis. Also, when observing unfamiliar behavior, the individual begins with a finer unit of analysis and progresses to larger units.

Newtson (1976) suggested that an observer in a recurring type of situation becomes familiar with the type of behavior exhibited in that situation. He believes the observer will develop a set of criterial stimulus features to look for in that particular situation. As experience in observing the situation increases the observer will begin to edit the set of features.

That is, the same features may not be monitored continuously throughout a given observational episode. Given the limits on the number of features monitored, skilled observers may adopt monitoring priorities, such that the appearance of a given feature may cause the observer to cease monitoring another. In addition, shifts in feature monitoring patterns may reflect the observer's dependence upon his causal grammar of the event so that certain feature changes result in systematic shifts to different features, as the occurrence of one action directs the observer to be vigilant for other actions. In so far as the observer's perceptual grammar corresponds to the actual pattern of feature changes, his efficiency is increased; in so far as it does not, the observer is liable to see causal dependencies in the event that are erroneous. (p. 121)

Gibson (1969) has cautioned that the function of perceptual processes in becoming skillful perceivers is still in the stage of hypothetical postulation. Berlyne (1974) has supported her caution by stating that there is not enough experimental verification for the concept that perception in different situations depends on the

same factors and uses the same processes. Berlyne's statement raises the question of whether perception in different situations depends on different factors and processes and of whether perception in similar situations depends on the same factors and processes.

#### Modes of Perceiving

Pick and Saltzman's (1978) definition of modal processing is that different modes have different types of information intake and processing, and that different information within one mode would be processed similarly. They believe that it is not unreasonable to assume that individuals evolve general dispositions or modes of processing stimulation specialized for their particular daily activities. They have stated that "perception in control of one's own behavior may be different from perception of similar information produced by another" (p. 12). They have also suggested that perception while one is engaging in activity is different from perception while one is more passive.

Posner, Nissen, and Ogden (1978) raised the question of whether attentional conscious perceptions are in a different processing mode from automatic unconscious perceptions. They concluded that unconscious perception can occur (a) without conscious awareness, (b) without intention, and (c) parallel with other pathways being activated, and thus supported the concept of different



modes of processing.

According to Vernon (1952), when observers perceive movement, they organize the visual stimuli into schemata that allows for small movement across a steady background. Therefore, he concluded that perception of movement is a process distinct from the perception of forms.

Rozeboom (1974) believed that a perceptual mode is characterized by a unitization that comes from repeated activation of a sensory process or processes. Unitization is shown in increased efficiency of perceptual processing through lessened demands on the processes of memory and recall. Unitization may also be described in terms of Gibson's (1969) trends in perceptual development: (a) increased specificity of discrimination, (b) optimization of attention, and (c) increased economy of information search. What is being suggested here is that an observer, with practice in observing a particular type of situation, develops a perceptual processing mode for that situation. As practice continues the observer begins to develop efficiency within that mode. Thus, the observer begins to develop skillfulness in observing.

This review of Gibson's (1969) theory of perceptual development and related concepts was presented to aid the reader in coming to an understanding of how observation is viewed perceptually in this investigation. The next

section of the literature review focuses on introspection as a research methodology.

### Introspection

The literature on introspection is divided into three parts. The issue of introspection as a method of research is examined first. Following this, two specific techniques of introspection, thinking aloud and stimulated recall interview, are discussed.

#### The Issue of Introspection as a Research Method

Bakan (1954) defined introspection as a way of investigating psychological phenomena. The term according to Radford (1974) is a rubric given to several different, though related, techniques of self-examination in which a verbal probe is used to gain information about a subject's internal states. Examples of introspective techniques include (a) thinking aloud, (b) stimulated recall interview, (c) self-observation, (d) self-report, and (e) thought sampling. A subject produces verbal reports through one or a combination of these techniques which become the data of introspection.

Ericsson and Simon (1980) have stated that there are no clear guidelines distinguishing legitimate introspection from other types of verbal output nor are there distinctions made between the diverse forms of verbalization such as thinking aloud and the classical introspective probes of trained observers. It is important, they contended,

that a methodology for verbal reporting be evolved that addresses how subjects produce verbal responses, that is, "in what memories the response information has been stored, what demands the response makes on short-term memory, whether responses can go in parallel with other behaviors, and so on" (p. 216).

Introspection as a method of research has a long history that has not been without controversy (Boring, 1953). Bakan (1954) described introspection as a once flourishing methodology that all but disappeared from consideration as a means of data gathering in the period of modern psychology. He stated that there is general agreement that the demise of introspection was coincident with the emergence of behaviorism in the early part of this century. The behaviorists chose to focus on overt behavior in the stimulus-response (S-R) relationship and dismissed the concepts of mind, consciousness, and unconsciousness. After a long period of stimulus-response research, he pointed out, psychologists and others shifted their interest to understanding the cognitive processes that produce the overt behavior of the S-R relationship. Their interest led to the revival of introspection as a methodology and the revival of the controversy of its worth.

Two articles, one by Nisbett and Wilson (1977) and one by Ericsson and Simon (1980) seem to represent the different sides of the controversy. On one side of the controversy Nisbett and Wilson (1977) reviewed a number of introspective studies and concluded that introspection should be discredited as a research methodology. Their reasoning for such a conclusion was stated as their main research finding:

People often cannot report accurately on the effects of particular stimuli on higher order, inference-based responses. Indeed, sometimes they cannot report on the existence of critical stimuli, sometimes cannot report on the existence of their responses, and sometimes cannot even report that an inferential process of any kind has occurred (p. 233).

They stated that although introspection may have been worthy for discovery, it was certainly useless for verification.

The conclusions drawn by Ericsson and Simon (1980), however, were in opposition to those of Nisbett and Wilson (1977). They concluded "that verbal reports, elicited with care and interpreted with full understanding of the circumstances under which they were obtained, are a valuable and thoroughly reliable source of information about cognitive processes" (p. 247). They criticized Nisbett and Wilson (1977) for the lack of an adequate model of cognitive processing as an interpretive frame for their findings. Ericsson and Simon (1980) proposed a model of cognitive processes that generate subjects' verbal responses, and

through this model addressed each of the classical issues in the controversy.

The first issue addressed by Ericsson and Simon (1980) was concerned with the effect on the cognitive processes of the instruction to verbalize. They stated that when subjects are asked to verbalize about a related task, the information they must process in order to produce the verbalizations may be in many forms. If the information is available verbally their model predicts that the cognitive processes will not change in course or structure nor will they be slowed down. When information is available in a different mode--for example, complex visual stimuli, the cognitive processes may be slowed somewhat and be incomplete, but they believe the course and structure will remain largely unchanged.

The second issue is the completeness of verbal reports. The Ericsson and Simon model predicts that there may be omissions in verbal reporting particularly if the subject is operating under a high cognitive load. Omissions may also occur if the cognitive processes used have been used so often as to be automated. In such cases, clear, specific requests for retrospective thinking may be used to obtain some of the information that was omitted. That a report is incomplete indicates only that some information is unavailable, but does not invalidate the information that is available (Ericsson & Simon, 1980).

The next issue addressed by Ericsson and Simon (1980) was that of consistency of verbal reports with other behaviors. Verbal reports are often dismissed as being inconsistent with observable nonverbal behavior. They suggested two possible sources for this inconsistency: the experimenter's cues given to access the requested information being too general, and the subject's filling in missing information before responding. Ericsson and Simon (1980) reported a study of a subject who could not describe the differences between positive and negative patterns on a wheel of fortune, but who could perform correctly on the trials. When pressed, the subject verbally reported the processes, but these were inconsistent with his actual behavior. They attributed "the error to absence of the information from memory, rather than inconsistency between memory contents and verbal reports of them. When information is not in memory, it cannot be reported verbally" (p. 243).

Having resolved the issues to their satisfaction through reviewing studies in light of their model, Ericsson and Simon (1980) concluded that verbal reports can be both reliable and valid. To abandon introspection as useless is "to mark as terra incognita large areas on the map of human cognition that we know perfectly well how to survey" (Ericsson & Simon, 1980, p. 247).

### Thinking Aloud as a Technique of Introspection

The introspective technique of thinking aloud (TA) requires subjects to verbalize, usually concurrently, while performing a task or solving a problem. According to Klinger (1978), verbal reports provide information about the moment-to-moment gross thematic content of cognitive processes as well as the sequence in which they occur.

Requesting subjects to verbalize while performing other tasks puts them in an unnatural situation (Klinger, 1978). Those reporting on research using TA, however, have found that subjects adapted very quickly to the technique (Elstein, Kagan, Shulman, Jason, & Loupe, 1972; Hutt & Hutt, 1974; Klinger, 1978).

In reviewing studies that have used TA as a technique of data collection one finds that TA has been used to study the cognitive strategies of such varied topics as teacher planning (Clark & Peterson, 1976) and doctor's diagnosing processes (Elstein et al., 1972). Clark and Peterson (1976) examined the lesson-planning strategies of eight experienced junior high school social studies teachers in order to describe the strategies they employed in planning lessons. The teachers thought aloud during a 90-minute planning session and then taught the lessons they had planned. The lessons were videotaped. At the end of the day the teachers were interviewed while viewing the videotape and asked why they made the decisions that

they did during the lessons. With the data from the TA sessions and the interviews, it was found that teachers rarely had alternative strategies if the plan were going poorly and that they did not seem to have any or many objectives for the lessons.

Elstein et al. (1972) used TA to study the strategies employed by doctors in the diagnosing process. At breaks during diagnosing a patient's condition--for example, after the physical examination, doctors recorded verbally the strategies they were using in their clinical reasoning to make diagnoses. It was found that the doctors in their study used a hypothetico-deductive strategy for diagnosing and not a progressive constraint-seeking inquiry strategy.

An application of the TA technique to data collection in physical education research is Reiken's (1982) study of gymnastics coaches' observations of gymnastic performances. She asked coaches to think aloud while observing and instructing gymnasts during a coaching session. After the TA session she conducted interviews to obtain additional information about what the coach was thinking while coaching. She found that the coaches in her study (a) identified a large number of features as having been observed, (b) tended to observe features concerning errors, (c) tended to describe spatial aspects of movement, (d) observed the presence of features rather than the absence of features,



and (e) observed the whole body more than specific body parts. She suggested that coaches and physical education teachers could use the information from her study to determine whether they have been too specific or too broad in their observations and whether they have been concentrating on the features most critical for successful performance of skills.

#### Stimulated Recall Interview as a Technique of Introspection

According to Bloom (1954), the basic idea of stimulated recall interview (SRI) "is that a subject may be enabled to relive an original situation with great vividness and accuracy if he [she] is presented with a large number of cues or stimuli which occurred during the original situation" (p. 25). For example, a person may be helped to recall an early birthday by being shown photographs of the birthday celebration. He believed, however, that the accuracy of recall would be higher if the interview were conducted in as short a time as possible after the original event. The cue most often used in the research setting to aid recall is a videotape of the original situation, although documents or artifacts, among others, may also be employed.

It has been suggested by Shavelson and Stern (1981) that because the individual at one time is a participant in an event and at another time is reporting her or his

conscious participation during that same event through the interview, that the interview can be carried on with only minimal effect on the recall of the original event. They encouraged researchers, therefore, to employ SRI when other techniques would interfere with the performance of the task under study. They believed this freedom from interference made the technique highly desirable.

The increase in the use of SRI as a research technique over the last decade is evidenced in such studies as Clark and Peterson (1976), Elstein et al. (1972), Griffey, Housner, and Oliver (1983), MacKay and Marland (1978), McNair (1978 - 1979), and Reiken (1982). Often TA and SRI are employed together as research strategies with the data from TA providing concurrent verbalizations and the data from SRI providing retrospective verbalizations. The Clark and Peterson (1976), Elstein et al. (1972), and Reiken (1982) studies are examples of this strategy and have been reported previously in this review.

MacKay and Marland (1978) and McNair (1978-1979) videotaped lessons as they were taught and then interviewed the teachers after the lessons using the tape as a stimulus for recall. The first study analyzed first, third, and sixth-grade teachers' thought processes during planning for teaching and during teaching. From a content analysis of the data they developed the System for the Analysis

of Teachers' Interactive Thought which includes the following categories: (a) perceptions, (b) interpretations, (c) prospective tactical deliberations, (d) retrospective tactical deliberations, (e) reflections, (f) anticipations, (g) information-pupil, (h) information-other, (i) goal statements, (j) fantasies, and (k) emotions. These categories represent the kinds of teacher thoughts as demonstrated by their subjects. McNair (1978 - 1979) looked at the decision-making process of reading teachers while they were teaching at three different times during a school year. Categories were devised that described what teachers were concerned about as they taught. She found teachers to be concerned with (a) pupils, (b) content, (c) procedures, (d) time, and (e) materials. She also found that teachers were more alike than different on what they noticed and made decisions about.

The technique of SRI as exemplified in physical education research is the Griffey et al. (1983) study that examined the interactive decision-making processes of experienced and inexperienced physical education teachers. Twenty teachers were videotaped while teaching soccer and basketball dribbling to four children ages seven to nine. Through SRI with the videotape as the stimulus, it was determined which cues teachers attended to while teaching and the nature of decisions that were implemented. It was found that experienced teachers sought cues on

(a) student enjoyment, (b) student engagement, (c) student ability, and (d) clarity of instruction. Inexperienced teachers sought cues on time requirements and management. In addition, experienced teachers considered changing instruction more often than inexperienced teachers and had stored in memory more alternative courses of action from which to choose.

### Observing as a Teaching Skill

Observing, for the purposes of this study, "is defined as the ability to perceive accurately both the movement response of the learner and the environment in which the response is taking place" (Barrett, 1983, p. 22). This section of the literature will focus first on the identification of observing as a separate, independent skill in teaching, and then on the study and research on observing in physical education and coaching.

### Observing as a Separate, Independent Skill in Teaching

Recent models of the processes of teaching have highlighted observing as an important part of the teaching process. Robertson and Halverson (1984) have described teaching as (a) observing, (b) interpreting, and (c) decision-making. Observing is emphasized because of its key, initial place in the cycle. Hoffman (1982) described a three-phase process of what he is calling the pedagogical skill of clinical diagnosis or skill analysis. His first phase

is a kind of visual capturing and retention of the information about the movement performed. He stressed that mistakes in this phase may cause mistakes in the later phases. Again, observing has the key, initial position. Jensen (1980) likened teaching to the performance of an open skill. She stated that success in the performance of an open skill depends on the ability to perceive a changing environment. As teaching is conceptualized as being performed in a changing environment, success in teaching will depend on those same perceptual skills. Thus, skillful observing can be said to be critical for effective teaching.

Although observing has been recognized as an important and independent skill in teaching, there is a need to know more about how it develops in teachers. In recognition of this need Barrett (1983) hypothesized a model of observing to make the concept of observing as a teaching skill more tangible. It was her intent to give form and substance to the skill of observing so that it might come to be respected as a skill that needs systematic development. She hypothesized her model as having three basic components: (a) deciding what to observe, (b) planning how to observe, and (c) knowing what factors influence the ability to observe. She concluded by saying that "observing may be the teaching skill around which all other skills depend, and then again it may not be"

(p. 29). She hoped that her model would provide potential directions for future research activity.

#### The Focus of Research on Observing in Physical Education and Coaching

The research on observing in physical education and coaching seems to have been focused in two directions. The first has focused on the relationship among amount of experience with a criterion skill and the ability to observe that skill. The second has involved examining observation as it is taught and learned.

Experienced vs. inexperienced groups. Determining the differences in the abilities of experienced and inexperienced groups on observing movement performance has been approached in different ways. Armstrong and Hoffman (1979) and Hoffman and Sembiante (1975) took the approach of contrasting the ability of experts and novices identifying errors in the performance of certain skills. Armstrong and Hoffman (1979) examined experienced and inexperienced tennis teachers' ability to identify performance errors in the forehand skill. Treatment conditions also included providing the subjects with pre-response information on the performer's skill level (PCI) and post-response information on the outcome produced by the response (POI). The teachers viewed filmed performances of the forehand and used a checklist to identify errors in the performances.

A three-way ANOVA with two levels each of experience, PCI, and POI revealed that experienced teachers were significantly more accurate in detecting errors than the inexperienced teachers, but only marginally so. The primary difference in the two groups was accounted for by the fact that inexperienced teachers had more false alarms, that is, they identified an error when none was there. No significant main effects for PCI or POI were observed.

Hoffman and Sembiante (1975) found softball coaches significantly better at identifying errors in a batting skill presented on film than either physical education teachers or a control group with no special softball background. Using a multiple-choice questionnaire the subjects identified whether the performance was identical to the prototype or, if not, how it differed. An ANOVA indicated the coaches scored significantly higher than the other two groups on the batting test. In relation to a novel skill, however, there were no significant differences between the three groups in identifying errors.

In three recent studies the visual search strategies of experts and novices were measured by an eye movement recorder. Bard and Fleury (1976) examined the visual search strategies of experienced and inexperienced basketball players in viewing offensive basketball situations.

The subjects were shown slides of different offensive patterns and asked whether they would (a) pass, (b) dribble, (c) shoot, or (d) do nothing. An ANOVA revealed that in making that decision experienced players used a fewer number of eye fixations and fixated on different elements of the situation. The experienced players looked at the defenders while the inexperienced players ignored them.

In a study by Bard, Fleury, Carrière, and Hallé (1980), the visual search patterns employed by novice and expert gymnastics judges during the evaluation of optional and compulsory balance beam routines were analyzed. A 2 X 2 ANOVA was used to detect differences in the number of eye fixations. Although there were no significant differences in the number of eye fixations for the two groups, there were more fixations for optional routines than for compulsory routines for both groups. They also found that expert judges fixated on the upper body while the novices fixated on the lower body.

Neumaier (1982) examined the visual search strategies of experienced and inexperienced gymnasts using an eye mark recorder as they viewed filmed performances of specific floor exercise movements. He found that experienced gymnasts fixated on the central area of the performer's body while inexperienced gymnasts had a much larger dispersion of fixation points. He believed that the inexperienced



gymnasts could not distinguish the important parts of the movements from the unimportant and, therefore, gave the same attention in terms of eye fixations to all parts of the movements.

Arrighi's (1974) approach to the study of observation involved comparing field hockey coaches', club players', and college players' ability to observe game strategy. Game strategy was defined as (a) spatial relationships, (b) total offense-defense, (c) situation plays, (d) strategic theory and (e) skill analysis and whether the action was on or off the ball. While viewing a film of game play coaches and players were asked to comment verbally on elements of game strategy. Using a multiple discriminant function analysis, she found that coaches could be clearly differentiated from both club and college players on the strategies observed. Specifically, coaches observed more spatial relationships than the other two groups and more on and off the ball than the college group. Experience was also a significant factor within groups on selected strategies.

When viewed together these studies demonstrate that there appears to be differences between experienced and inexperienced persons with regard to (a) the ability to detect errors in a criterion skill, (b) the way in which perceptual information is gathered through eye fixations, and (c) the way in which game strategies are observed.

Because no differences were found between groups in the ability to detect errors in novel skill performance, Hoffman and Sembiante (1975) have suggested that no generic ability to observe exists.

#### The Focus of Research on Observing as it is Taught and Learned

Research focused on how observing is best learned has involved manipulating the variables of amount and type of practice in observing skills and determining their effects on the success of error detection in the skills. Bayless (1981) manipulated the type of observation practice experienced by physical education majors before judging performance errors in the volleyball serve, set, and spike. Subjects received either visual practice only or audio-visual practice in viewing a film of the prototypic serve, set, and spike. Subjects were also given one exposure or three exposures to viewing the film during the practice session. A 2 X 3 X 3 X 2 analysis with repeated measures was used to investigate the effects of treatment type, number of exposures, skill type and practice. Those subjects who received visual-only practice with the skills with one practice viewing exposure of each skill were significantly better at detecting errors using a checklist than the other practice conditions.

The approach to how observing is learned taken by Hoffman and Armstrong (1975) involved exposing subjects either to models of highly skilled performances or to models of both highly skilled performances and performances with common errors. Performances were of the standing long jump. The type of practice exposure was also varied by presenting the subjects with either verbal descriptions of the skill or opportunities to view filmed performances. An ANOVA revealed that those who studied verbal descriptions of correct performances were significantly better at detecting errors than those with verbal and visual examples. Those who practiced by viewing correct and error performances were significantly better at detecting errors in filmed criterion performances than those who viewed only correct performances.

From these studies there is support for the idea that different training techniques influence success in error detection. Before one makes application to teacher preparation it should be noted that the criterion skills used in most of the studies reported in this review have been skills nearer to the closed end of the open/closed skill continuum (Robb, 1972): the standing long jump, the volleyball serve, a balance beam routine. In other studies, skills used are normally thought of as being performed in an open environment, but in these studies

were presented in a closed manner: batting and the tennis forehand. Even the novel skills were presented in a strictly defined correct/incorrect context. The Arrighi (1974) study is an exception. Caution is indicated for the application of research on observing closed skills to observing as a teaching skill when one recalls Jensen's (1980) analogy of perception in teaching and perception in open skill performance.

Craft's (1977) study focused on teaching undergraduate physical education majors to observe movement. She hypothesized a model for developing observational ability in physical education teachers. Her model, consisting of the three interrelated elements of (a) the observer, (b) the movement framework, and (c) the environment, was a functional means of developing observational skills. Nevertheless, she acknowledged it was difficult to teach her students (a) to recognize their personal biases, (b) to understand the importance of observing as a teaching skill and (c) to recognize that observing movement and analyzing specific sport skills are different.

Acknowledging that skillful observing is a critical teaching skill raises the question of how observing is planned for in teacher education programs. Observing

has been recognized as needing time and study to develop in the preservice physical education teacher (Barrett, 1977a; Halverson, 1983; Hoffman, 1982) and increased emphasis on learning to observe has been suggested for teacher education curricula. Hay (1982) has suggested that observing is best learned in an ideal setting, that is, freedom from distractions and restrictions on the observer's position. Wolcott (1978), speaking from an anthropological perspective where observation has a rich heritage, confessed that he did not know how he was trained. He considered himself to be an untrained observer, but an experienced observer. He suggested that the best way to encourage observational skill in others was to "let them instruct you, to tell you what they see" (p. 19).

Barrett (1977a) indicated that observing may be best learned under varying conditions of environmental complexity and observer responsibility. Teacher educators can vary the environmental complexity of an observational experience for preservice teachers along the dimensions of (a) responsibility that the observer has to the situation, (b) responsibility that the observer has for selecting what is to be observed, and (c) number of individuals to which the observer must attend. Barrett (1977a) also has suggested that the different roles an observer is asked to assume

in an observational experience may be important to analyze as one examines how observational ability develops. She outlined the roles of the observer as (a) nonparticipant-observer where the observer has "no related responsibilities except that of observation" (p. 184), (b) participant-observer/learner where the observer becomes an actual member of the class being taught, and (c) participant-observer/teacher where the observer is also the teacher.

#### Summary

Gibson's (1969) theory of perceptual development was selected as the theoretical base for this study because it offered the most potential for understanding observing as it was studied here. Perception by her definition involves the extraction and reduction of relevant information from the rich, complex perceptual environment. What is extracted from the environment is the structure of stimuli perceived as critical features. The perceptual processes used to achieve this are thought to be specific to the particular perceptual situation.

After having been abandoned by the S-R psychologists, the research methodology of introspection is being revived by those who are interested in studying the cognitive processes of groups such as teachers and doctors. Apparently the controversy over the worth of introspection as a methodology has been resolved (Ericsson & Simon, 1980)

on the side of its being a valid and reliable method of collecting data.

Thinking aloud and stimulated recall interviewing are two techniques of introspection. Often the two techniques are employed in a single study so that both concurrent verbalizations and retrospective verbalizations become the data of introspection. Introspection is being used more extensively in educational research, and recent studies in physical education that use introspective techniques have been reported.

Observation is thought to be an important skill in teaching and is being recognized as a separate, independent skill critical for effectiveness. There is little known about how the skill develops in teachers. What is known is that experience in a particular observational situation aids the observer in perceiving that situation. There does not appear to be a generic observational ability.

### CHAPTER III

#### PROCEDURES

The purpose of this study was to describe what and how preservice physical education teachers observe in an unguided, early field experience. Introspection was the research method used to collect the data. From the introspective techniques of thinking aloud and the stimulated recall interview, two types of verbal reports were produced. It was considered important to have at least two types of verbal reports as Ericsson and Simon (1980) have emphasized that variations in the procedures for collecting verbalizations can have significant impact on what is verbalized and, consequently, the interpretation of the verbal data. This chapter explains the procedures and how they were used to obtain verbal reports. The chapter is organized into five sections: (a) pilot study, (b) selection of subjects, (c) the field experience setting, (d) data collection, and (e) preparation of data for analysis.

#### Pilot Study

In November, 1982, five female physical education graduate students at the University of North Carolina at Greensboro served as subjects for a pilot study which had the following objectives:

1. Field test the technique of thinking aloud.



2. Project the approximate amount of data that would be produced by the thinking aloud verbalizations.
  3. Field test the technique of stimulated recall interview.
  4. Train the investigator in the technique of stimulated recall interview.
  5. Field test videotaping techniques.
  6. Orient the elementary school students, who would be the participants in the field experience lessons taught as part of the study, to the procedures of the study.
- Data were collected during the pilot study at the thinking aloud session and the stimulated recall interviews.

#### Thinking Aloud

The subjects were requested to assemble at the University of North Carolina at Greensboro, School of Health, Physical Education, Recreation, and Dance, Physical Education Division's Elementary School Field Experiences Center prior to an actual field experience for a university class of preservice classroom teachers. They were given audio-tape recorders and seated along three sides of the gymnasium. The instructions for the thinking aloud session were as follows:

You will be observing a sixth-grade games lesson. As you observe, say out loud what is it that you are seeing. You are free to comment on anything that you wish and express yourself in any way that you wish. Do you have any questions? Begin by

giving your name into the tape recorder. I will signal you when to stop recording. Begin.

The subjects spoke aloud into a tape recorder what they were seeing as they observed the first 15 minutes of a 30-minute physical education games lesson. The lesson focused on the content of striking a ball with emphasis on using different body parts. The lesson was videotaped. The thinking aloud technique generated a 15-minute audiotape for each subject. Immediately after the lesson the subjects were questioned by the investigator about the thinking aloud technique used during the observation of the field experience lesson. They were asked specifically if they had any problems with the technique or the equipment and generally if they had any comments about the technique. The following information was revealed during the discussion:

1. Thinking aloud was a relatively easy task to accomplish while observing a lesson, yet the subjects felt they improved on the task as the lesson progressed.

2. The subjects felt that having to speak out loud influenced their observations to some degree. Although all subjects reported that they did not omit anything about which they wished to comment, they did find it necessary to shorten some comments.

3. The subjects stated that they did not purposely refrain from reporting something that they observed.

Based on the comments from the subjects in the pilot study it was decided to conduct a practice session for the subjects in the actual study in the technique of thinking aloud. The practice session would allow them to become familiar with the act of speaking aloud while observing and overcome any self-consciousness about speaking while around their peers and others. It was also decided to continue to emphasize that the subjects would be free to attend to and comment on anything during the lesson.

#### Projection of Amount of Data

The approximate amount of data to be garnered from a 15-minute lesson observation was projected by dividing the observations into units of thought and counting the units over all subjects. The number was a relatively accurate indicator of the amount of data that can be obtained in a 15-minute observation using the thinking aloud technique. As introspective studies normally generate a large volume of data it was important to know the amount of data that could be produced in one 15-minute lesson observation. This knowledge contributed to the decision to have three lessons in the field experience and not to seek additional subjects for the research study.

#### Stimulated Recall Interview

Within two weeks after the field experience in which the subjects thought aloud as they observed a physical

education games lesson, each subject was interviewed individually by the investigator. Two stimuli served to assist the subjects in recalling the events of the field experience and their spoken observations: a videotape of the lesson and a protocol of each subject's thinking aloud tape.

At the start of each interview the subject was given a copy of the protocol of her lesson observations and was asked to read it. The following instructions were then given to the subject:

You have read a copy of your observations. When you are ready, please start the videotape. As you come to different points during the lesson about which you wish to comment please stop the videotape and comment about why you made the observation that you did. You may stop it as often as you have something to say. There may be one or two points at which I will stop the tape and ask you questions. You are, however, basically in control of the interview. Do you have any questions?

Together the investigator and subject viewed the tape with the subject stopping the tape and commenting as the lesson progressed. The interview was audiotaped and a protocol of the interview was transcribed.

The investigator then reviewed the protocols of the five interview sessions. For the review, each lesson situation at which the subject stopped the tape and commented was noted and categorized. The review revealed the following points:

1. The interviewees had no apparent strategy for making decisions about when to comment.

2. They tended to comment about fewer observations than the interviewer had projected they might.

From this information the decision was made to have the interviewer control the interview. The interviewer would review the thinking aloud protocols and determine when to question the interviewee about why particular observations were made. The interviewees, however, would still be encouraged to initiate comments if they wished.

#### Investigator Training

The pilot study provided a training opportunity for the investigator in the technique of stimulated recall interviewing. An analysis of the protocols of the interviews with the pilot subjects revealed the investigator occasionally offered options to the interviewee when queried about how certain observations were made. For example, the investigator asked Pilot Subject 4 during the interview about her attempts to orient her comments to where she was seated in the room. The question was phrased, "Did you do that to help me when you knew I was going to be listening to the tapes or did you just do that so you'd be understood?" To eliminate the optional answers, the question should have been phrased, "Why did you attempt to orient your comments to where you were seated in the

in the room?" It was anticipated that the research subjects might assume the options given by the investigator were the only possible explanations of why they made a particular observation and refrain from revealing their own explanations. Therefore, the training period was extended until an analysis of interview protocols revealed that the investigator could consistently phrase questions without offering possible answers.

#### Videotaping Techniques

For the pilot study one videotape camera was used to film the lesson. Those subjects who were observing the field experience lesson from a position in the gymnasium with a different viewing angle from the camera found the videotape of the lesson did not serve as much of a stimulus to recall the lesson. Because of this, it was determined that two cameras would be needed for the six subjects in the actual study. Three subjects could be positioned close enough to a camera to have the same viewing angle, but far enough away from each other so as not to be influenced by another's verbalizations.

#### Orientation of Elementary School Students

The pilot study served to begin the orientation of the sixth-grade public school students to the procedures of the study. The students were participants in the study by virtue of their participation in the lessons taught

as part of the field experience. Recording equipment such as videotapes and audiotapes are known to have an effect on the behavior of children and others in the school setting (Good & Brophy, 1978). By videotaping previous field experience lessons and having subjects speaking into audiotape recorders prior to the actual data gathering, the children became accustomed to the presence of recording equipment.

#### Selection of Subjects

The subjects in this study were six junior-level physical education major students enrolled in Physical Education 359, A Movement Approach to Dance and Sport, spring semester 1983, at the University of North Carolina at Greensboro. The group consisted of three females and three males matriculating in the teacher education sequence. All subjects volunteered to participate in the study. These students were selected as subjects because of their place in the teacher education sequence at the time of the study.

#### Background

Of the six subjects, two entered the sequence at the university as freshmen while four transferred from another institution or another department on the university campus. One of the subjects earned a bachelor's degree in recreation at another institution of higher learning in the semester prior to data gathering. She enrolled

at the University of North Carolina at Greensboro in January to obtain teaching certification in physical education. Prior to the time of data gathering, with the exception of the subject just described, the subjects had completed the following three required courses in the teacher education sequence: (a) Physical Education 109, Understanding of Human Movement I, (b) Physical Education 210, Understanding of Human Movement II, and (c) Physical Education 217, Introduction to the Teaching of Physical Education in Grades K-12.

In Physical Education 217 the subjects participated in four early observational field experiences in an elementary school. In these field experiences, the subjects were introduced to a number of different concepts in the educational context such as (a) the elementary school setting, (b) motor development levels of children, (c) the instructional process, (d) theoretical foundations of curriculum and instruction, (e) lesson content, and (f) the diversity among students' movement responses. The listed concepts were obtained from handout materials used as observational guides for the field experiences. During the semester of data gathering, the subjects were enrolled in Physical Education 373, Introduction to Motor Learning as it Applies to Teaching and Coaching, and Physical Education 454, Teaching Secondary School Physical Education.



Physical Education 454 had a major field experience component attached to the course. The field experiences which occurred before the data gathering for this study involved small group teaching in two settings. One setting was an outdoor education center and the other setting was a senior high school physical education volleyball class. No field experiences in which the preservice teacher took the role of nonparticipant observer were scheduled in this course.

Physical Education 359, A Movement Approach to Dance and Sport, was the course in which the data were gathered. The focus on this course was on how the content of elementary school physical education is taught and learned. Throughout the semester, a portion of the class was conducted at the Field Experiences Center from 8:00 a.m. to 12:00 p.m. every Wednesday. As a part of the learning experiences each Wednesday, the university students (a) observed a 20-minute games lesson with a first-grade class, (b) assisted with a 20-minute dance or gymnastics lesson with a third-grade class, and (c) participated as students with a class of sixth graders in a games or gymnastics lesson.

#### Orientation of Subjects

The subjects were informed of the nature of the research and the procedures to be used in the study. In all

orientation sessions care was taken to avoid giving examples or suggestions of observations that could be made. As this was an attempt to describe what preservice physical education teachers see in an early, unguided field experience, the investigator did not wish to convey the idea that there were observations that should be made.

Two days prior to the collection of data the subjects practiced the technique of thinking aloud while observing. The subjects observed a 15-minute games lesson with a first-grade class taught by a university faculty member. The practice session allowed the subjects to become familiar with operating an audiotape recorder and speaking aloud while observing. The subjects reported no problems with the technique of thinking aloud.

#### Consent

Prior to any involvement in the study the subjects were informed of their rights as subjects and participants in the study. Evidence of consent to participate was in the form of a signature on an informed consent form. For the letter requesting their participation and the informed consent form see Appendix A. Approval was obtained from the chair of the School of Health, Physical Education, Recreation, and Dance's Human Subjects Review committee and the chair of the Greensboro Public Schools' Review Committee before any data collection began. Permission

to collect data within a university course setting was obtained from the coordinator of the University's Physical Education Division. At the request of the public school principal, consent from the parents or guardians of the elementary school children who were videotaped while participating in the field experience lessons was secured. The letter requesting parental permission is included in Appendix A.

### Design of the Field Experience

#### Selection of School and Class for the Field Experience

The Physical Education Division of the School of Health, Physical Education, Recreation, and Dance at the University of North Carolina at Greensboro sponsors an Elementary School Physical Education Field Experiences Center in one of the public elementary schools in Greensboro, North Carolina. Price Traditional School serves as the site for the Field Experiences Center. Price School was selected as the research site for this study for the following reasons:

1. It is located 5 minutes from the university.
2. Its organizational pattern of self-contained classrooms allows for scheduling of university field experiences with minimal disruption to the elementary school.
3. The school has a large indoor teaching space, outdoor play areas, and equipment storage space.

4. The school's emphasis on attention to learning facilitates the conduct of classes for field experiences.

5. The Center has conducted a full schedule of field experiences at Price for three years. Therefore, all the children are accustomed to being observed in the physical education setting and often have large numbers of people in the gymnasium during a class. It is not uncommon to videotape field experiences and a number of classes are accustomed to the procedure.

6. It has been the investigator's responsibility to coordinate and conduct field experiences in the Center for the last two years. The investigator was, therefore, familiar with the personnel and organization of Price School.

The sixth-grade class, selected as the class for the field experiences lessons, was chosen for a number of reasons. First, the class has been videotaped on previous occasions and was accustomed to that procedure of the study. Secondly, as a class, the children were skilled at listening to teacher directions and they responded to new teachers quickly. Lastly, this was the same sixth-grade class that participated with the university students in the Physical Education 359 course in the games and gymnastics lessons on Wednesday mornings and its students were familiar with the content of elementary school physical education as presented in the course.

### Orientation of the Students

In November, the sixth-grade students were asked if they wished to participate in the study. They were informed of the purpose of the study and the research procedures to be used. All 26 students in the class consented to participate in the field experience lessons.

Prior to data gathering the children were videotaped twice and experienced a lesson with observers speaking into tape recorders once. The children experienced the full complement of the videotaping equipment to be used during data collection the day before the actual data gathering. No film was taken.

The children were not familiar with the teacher selected as the field experience teacher. Therefore, she taught the children physical education lessons on two different occasions before the field experience lessons: two months prior to data gathering and the day before data gathering.

### Teacher Selection

The following criteria were established to guide the selection of the field experience teacher:

1. She or he had to be unknown to the subjects in order to reduce observer bias.
2. She or he had to be "realistic" in terms of the kind of physical education teacher preservice teachers

would see while observing in the context of an early field experience.

3. She or he had to be able to teach in the curricular areas of educational games, educational gymnastics, and educational dance as identified by Logsdon (1984) and Barrett (1984a, 1984b) in Physical Education for Children: A Focus on the Teaching Process (Logsdon et al., 1984).

4. She or he had to be able to teach the lessons designed by the investigator that reflect the lesson content and teaching methodologies within the scope section of this paper.

The teacher selected had three years of teaching experience and at the time of data collection was an elementary school physical education specialist in a medium-sized suburban school district. She was also nearing completion of her Master of Science degree in physical education from the University of North Carolina at Greensboro. The teacher's involvement was voluntary and based on her fulfillment of the stated criteria.

#### Orientation of the Teacher

The teacher was informed of the nature of the research and the procedures to be used in the study. She was given an opportunity to become familiar with the sixth-grade students by teaching physical education lessons at two different times prior to data collection. In the second

of the practice lessons, the teacher worked with material similar to that material for the field experience lessons but she did not teach the actual field experience lessons.

### Lesson Design

The lessons taught as part of the field experience for this study were designed to reflect the approach to teaching elementary school physical education that is a part of the teacher education program at the University of North Carolina at Greensboro. The lessons were also designed to include changing environmental demands, changing organizational patterns, as well as content in three different curricular areas. The teacher's verbal comments were taped during the three lessons. The movement tasks as presented by the teacher during the field experience lessons were outlined and are appended. (See Appendix B.)

### Data Collection

This study was designed to identify the content of what is reported to be seen and the perceptual processes used by preservice physical education teachers in an unguided, early field experience. Data were collected at two different times. First, using the introspective technique of thinking aloud, verbal reports were collected in a field experience type of setting during a regularly scheduled course meeting time for Physical Education 359,

in the sixth week of the spring semester, 1983. Second, throughout the week following the field experience, data were again collected using the introspective technique of stimulated recall interview.

### Thinking Aloud

All subjects were given an audiotape recorder and seated around the gymnasium. Figure 3-1 shows this arrangement.

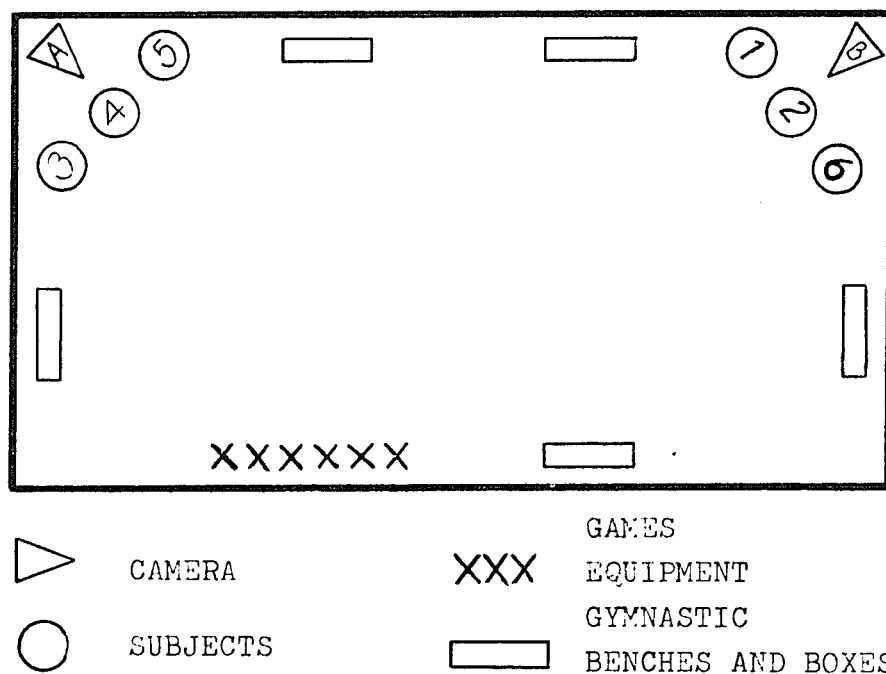


Figure 3-1. Arrangement of subjects, cameras, and physical education equipment.



The subjects were given the following directions:

Speak into the tape recorder what it is that you are seeing as you observe each lesson. You are free to comment on anything to which you are attending. You may express your thoughts in any way you choose. There are no wrong or right observations. Nor are there things to which you should or should not attend. Please speak loudly enough for the tape recorder to pick up your voice but not so loudly as to disturb your neighbor. Please leave the tape recorder running throughout the entire lesson whether or not you are speaking. If you have trouble with your tape recorder, raise your hand and someone will bring you another one. Are there any questions? Please check to make sure you have pushed the record button. Begin by giving your name into the recorder. Ready? Begin.

As the subjects observed they spoke into a tape recorder, (i.e., they thought aloud). The audiotape became a verbal record of each subject's report of his or her observations of the field experience lessons.

The subjects observed the three lessons in the order of games, gymnastics, and dance. The games lesson was presented first as the subjects had had the most exposure to games material. The dance lesson was presented last as the subjects had had the least exposure to dance material. There was a 10-minute break between the lessons.

The lessons were videotaped using two color cameras, a Sony DXC 1610 and a Sony DXC 1640, with zoom lens and two 3/4" decks, a Sony 4800 and 3800. The lens height was seven feet. Natural light was used. The lens position remained stationary throughout the lessons. The field

experience teacher's verbal comments during the lessons were audiotaped with a Sony cassette audiotape recorder which was worn by the teacher in a small backpack pouch.

#### Stimulated Recall Interview

During the week following the thinking aloud session, the subjects were interviewed individually for the purpose of ascertaining the perceptual processes used by the subjects during the field experience lessons. The investigator interviewed each subject using the technique of stimulated recall interview, with the videotapes of the lessons and a protocol of the observations serving as stimuli. The interviews ranged in time from 1 hour 10 minutes to 1 hour 45 minutes. The length of the interviews varied for two reasons. Some subjects made more observations than others and some subjects took longer and used more words to answer questions than others.

At the beginning of the interview the subject was given a copy of his or her typed protocol from the thinking aloud audiotape and was asked to review it. The subject was given the following directions:

I am going to play the tape to help you recall what stimulated you to say the things you said during the field experience. At particular points during the lesson I will stop the tape and ask you to comment on your observations. I will be asking you to account for your observations. Thus, I will be asking you

to explain why you reported the things that you did. If there is a point at which you wish to stop the tape and comment, please do so. Any questions?

Together the subject and investigator viewed the videotape of the lesson taken from the camera of the same viewing perspective each had during the field experience. Subjects 3, 4, and 5 viewed the tape from camera A and Subjects 1, 2, and 6 from camera B. (See Figure 3-1).

The videotape was played and the investigator stopped the tape at points she had previously determined which corresponded to those suggested by the thinking aloud protocols as having potential for identifying the perceptual processes used by the subjects. For example, Subject 1 made the observation, "I don't see any sticks that are coming up too high and wild and flying around like you'd think with kids." This statement prompted the interviewer to ask, "Why do you think you noticed that there weren't any sticks coming up?" Subject 5 observed, "O.K., now we're going to partner up and then you see mainly guys with guys and girls with girls." This statement prompted the interviewer to ask, "Why do you think you attended to the sex of the partners?"

There were three types of questions asked of the subjects during the interview. Predominantly, the subjects were asked to account for their observations, that is, they were asked why they observed what they observed.

For example, "What drew your attention to the way they were holding the stick?" Secondly, the subjects were asked what it was that they observed if their comments were interpretations, not observations. For example, "When half are out working on the floor, you make the comment that some of them are real cautious so they wouldn't lose the ball. What did you see that made you say they were cautious?" In addition, clarifying questions were asked if the subject's response was not clear. For example, "So are you saying then, it was the fact that one of them was behind the other one that kind of first caught your eye?" As much as possible, the questions were phrased in the language the subjects had used in their observations. The interviews were audiotaped.

#### Preparation of the Data for Analysis

Data collection generated two sets of verbal reports for each subject. One was the TA audiotape, the other was the SRI audiotape. The TA tape was transcribed and typed verbatim. The statements from each subject's TA protocol of what was reported to be observed were then divided into separate "units of thought" as conceptualized by Bloom (1954). The units of thought became the units of analysis. A unit of analysis was considered to be an observation. Fassnacht (1982) stated that the classifying of observations into units is crucial because the units

"establish principles with regard to the statements that can be made about a topic before anything has been discovered about it" (p. 57). He suggested that the two most important aspects of the search for the most appropriate unit are the content of the units and the breadth of the units as defined by their natural coherence. These two aspects were the guiding principles for establishing what constituted an observation. When first transcribed, natural pauses in the speech of the subjects were used to separate observations. Then the content of each observation as defined by the natural pauses was examined and the natural unit was subdivided further or combined with other natural units as the content suggested. As the observers had no task-imposed restraints on what and how long to observe, their spoken observations ranged from a two-word sentence to a lengthy five compound sentence paragraph. Some procedure to establish the beginning and ending of an observation was necessary to aid the presentation and discussion of the data. The ground rules used in this study for determining units of observation are in Appendix C.

The following procedure was used to divide the observations as defined by the ground rules: (1) Each subject's protocols were divided by the investigator working in conjunction with an assistant. (2) A week later the same two individuals divided the observations. Reliability between

session one and session two was .97. (3) Finally, disagreements between session one and session two were arbitrated by the individuals until 100 percent agreement was reached. The technique of forced agreement between judges is similar to that used by Bellack, Kliebard, Hyman, and Smith (1966).

The SRI tapes were transcribed and typed verbatim also in preparation for data analysis. The SRI protocols were not subjected to the same procedure of division as the TA protocols because the SRI verbal statements are not statements of observations. They are the record of the verbal interaction between the investigator as interviewer and subject as interviewee. The SRI statements fell into natural groupings defined by the questions the interviewer asked.

The two sets of data were qualitatively analyzed using a modification of the constant comparative strategy as described by Goetz and LeCompte (1981) and Fair (1981). This constructive, inductive procedure allowed for new observations to be compared with previous ones so that relationships could be discovered as categories emerged that described the data. Observations within each category were studied in relation to one another and recurring themes that emerged from the data were noted. Observations were compared to determine whether the themes held across all

subjects. The data were analyzed so as to describe the content of what was reported to be observed and the perceptual processes used by preservice physical education teachers in an unguided, early field experience.

## CHAPTER IV

### PRESENTATION AND DISCUSSION OF DATA

The purpose of this study was to describe what and how preservice physical education teachers observe in an unguided, early field experience. Selected data are presented and discussed as they relate to the identification of (a) the content of the observations made, (b) the perceptual processes used, and (c) the relatedness of the two. Consistent with the methodology of thinking aloud and stimulated recall interviewing, the research decision was made to present substantive comments and not tabulate frequencies.

#### The Content of Preservice Physical Education

##### Teachers' Observations

The preservice physical education teachers in this study made observations about three different facets of the field experience lessons they observed: (a) the students' movement responses, (b) organizational tasks and patterns, and (c) the nonmovement characteristics of students. These three categories emerged from the data as distinctively characteristic of the observations of the preservice teachers in this study.

##### Students' Movement Responses

Consistency of attention. Observations about the students' movement responses caught the attention of the



observers more than any other facet of the lesson. This occurred over the three types of lessons and for all preservice teachers. The preservice teachers appeared to be oriented to look for students' movement responses from the very beginning of the lesson, but this type of observation was made throughout the lessons as well, suggesting an importance to the observer of constant vigilance to the movement responses of the students as they were being performed. The following statements are examples of observations whose content has been identified as representative of student movement responses. The words indicating movement content have been underlined.

I'm looking at one particular child and he is being very clever in that he's really changing direction. He's moving backward, side to side and using side steps as opposed to always continuing in a forward motion, but just changing direction by perhaps going in a circle or just changing from left to right. He's using his feet in every way possible. (Games Lesson)

One little girl just did a nice forward roll into a back roll. (Gymnastics Lesson)

Some of them are losing the slowness to their rise when they add the turn or twist. (Dance Lesson)

The kids are now practicing jumping onto and off of the equipment. (Gymnastics Lesson)

They're sinking. (Dance Lesson)

Suppose to be alternating speeds now but they, they look basically the same. All of them. I really didn't

see that, a variation in speed very much. It seems to be about the same speed. (Games Lesson)

The importance of movement as a subject for attention remained constant for all preservice teachers across all lessons with one exception. Preservice Teacher 5 had fewer movement observations in the gymnastics lesson than in the games and dance lessons. This teacher, however, had so few observations in all lessons compared to the other preservice teachers that any alteration in number would cause an exaggerated alteration in proportion. Thus, the exception may be a reflection of the low total number of observations.

A possible reason for this trend in observing student movement may be a reflection of the emphasis in one of the university courses being taken by the preservice teachers during the time of the study. At the time of data collection the teachers were enrolled in PE 359, A Movement Approach to Dance and Sport, a course which emphasizes movement as the content of physical education. In the field experience observations that were a part of this course, the preservice teachers were often asked to focus their observations on students' movement responses for the purpose of improving their ability to observe movement in particular. The information garnered from these observations became the basis for their discussions of the content of physical education. It is assumed that

their orientation towards observing students' movement responses during the field experience lessons of this study was a reflection of the course emphasis in that direction. It is to be noted, however, that little detail about students' movement responses was specified in the observations of these preservice teachers.

Preservice Teacher 2 was different from the other teachers in terms of her student movement observations. While all preservice teachers observed movement in each of the three lessons more than any other facet of the lessons, Preservice Teacher 2 observed movement almost exclusively. Rarely did she make an observation about some other facet of the lesson. During her stimulated recall interview (SRI) she commented that the discussions in the PE 359 class influenced particular observations that she had made. Perhaps the course emphasis directed her attention toward student movement to the exclusion of other elements of the field experience lessons.

As teaching has been conceptualized as observation, interpretation, and decision-making (Robertson & Halverson, 1984), it seems logical to assume that what one observes while teaching will affect one's interpretations and one's decisions concerning the design of subsequent learning experiences. It is further assumed that the most important source for such decisions should be the movement responses

of the students. It was encouraging, therefore, that these preservice teachers had an orientation towards observing student movement even if much detail was lacking. It was particularly encouraging in light of a recent study that revealed sophomore preservice teachers at the same institution in their first elementary school physical education field experience were not focused on the movement responses of the student but rather were focused predominantly on personal characteristics of students and teaching techniques (Bell, Barrett, & Allison, manuscript submitted for publication).

Movement detail. The observations whose content was defined as students' movement responses were examined further in order to determine the type and amount of detail that was noticed. Laban's (1948) conceptualization of movement as organized and presented by Logsdon and Barrett (1984) was used by the investigator as a framework to guide this examination. This conceptualization of movement has four broad aspects each accompanied by specific dimensions that result in a more detailed classification of movement. The four aspects are body, space, effort, and relationships. The body aspect defines what the body is doing. Its dimensions are actions of the body, actions of the body parts, activities of the body, and shapes of the body. The space aspect defines where the body is moving. Its dimensions

are areas, directions, levels, pathways, planes, and extensions. The effort aspect defines how the body performs movement. Its dimensions are time, weight, space, and flow. The relationship aspect defines the relationships that occur as the body moves. Its dimensions are body parts, individuals and groups, apparatus and equipment, and others such as goals, boundaries, and music.

This Logsdon and Barrett (1984) conceptualization was used as these authors have applied it to all three areas of the curriculum; educational games, educational gymnastics, and educational dance.

An analysis of the observations of students' movement responses revealed that the preservice teachers in this study predominantly directed their attention to and made statements about the body aspect, in particular about the activities that the body was performing. The following are examples of observations that focused on activities from all six preservice teachers with the activities underlined:

The rolls coming out of the jumps are very nice.  
(Gymnastics Lesson)

They're playing hockey. (Games Lesson)

Now they're working on travelling around the room and hitting the ball back and forth. (Games Lesson)

The children are now practicing different ways of rising and sinking. Trying to do something different each time they repeat the rising and sinking.  
(Dance Lesson)

You can see the little fella in the sweater right in front of the camera had problems stopping. Everyone seems to have problems stopping. (Dance Lesson)

And more of them got into the tipping and losing and falling off balance before they move forward. (Dance Lesson)

Logsdon and Barrett (1984) have stated that uninitiated observers often observe movement only in terms of the body aspect, and specifically the activity dimension, rather than other dimensions of the body aspect or the space, effort, and relationship aspects. Seeing more than just the activities the body is performing appears to be characteristic of a more skillful observer. The preservice teachers in this study, while not totally uninitiated, certainly could be characterized as less experienced observers of elementary school physical education lessons. Though they still observed mainly in terms of the activity dimension of the body aspect as is characteristic of uninitiated observers, they did make some observations focused on other dimensions in the four aspects--body, space, effort, relationships, as is characteristic of more experienced observers. In observations made by the preservice teachers that included two dimensions, one of the two was almost always the activity dimension. The following examples are illustrative of observations focusing on two dimensions of movement where one dimension is the naming of the body activity and the other is another

dimension of the body aspect or a dimension of space, effort, or relationships. The activity has been underlined twice with the other dimension underlined once:

One little boy in rolling on the side didn't put his hands out to help him roll. (Gymnastics Lesson)

They're just using gentle taps with a stick to hit the ball. (Games Lesson)

Some when they're sinking, twist. (Dance Lesson)

Now they're sinking. They all handle this pretty well. They're doing a good job of sinking down very slowly and then rising. (Dance Lesson)

In all the observations there were three exceptions to this pattern. Preservice Teacher 2 and Preservice Teacher 3 made one and two observations respectively that focused on three dimensions of movement. Preservice Teacher 2 focused on direction (space aspect), hand (body aspect), and the relationship of the ball to the body (relationship aspect) when she said, "Going backwards, this little boy is using one hand. Looks like he's trying to keep the ball close to him and stay in control of it." Preservice Teacher 3 focused on time (effort aspect), rising (body aspect), and turning/twisting (body aspect) when she said "Some of them are losing the slowness to their rise when they add the turn or twist." Finally, Preservice Teacher 3 again focused on three dimensions when she said "First try at this. They're not doing well. They're not passing in front of them and the partner doesn't keep travelling

as they pass. He has to stop and turn around, stop the complete motion and go and try to reach the ball. Whereas, if they would pass in front of them, they could be a continuous flowing motion." She focused on passing (body aspect), relationship of pass to partner (relationship aspect), and the flow of the movement (effort aspect).

These findings may suggest that the preservice teachers in this study showed signs of beginning to see detail in their observations of students' movement responses. The observers were attending to the movement responses of the students, could describe what the students were doing in terms of body activity, and could also focus some of their attention on another dimension of movement. Their development of skillfulness in observing physical education lessons seemed to have progressed beyond being captured by the behavior of young children because the observers could continue to focus on the students' movement responses. They also seemed to have progressed beyond the unidimensional observing of the body activity because their observations were often focused on more detail than that one dimension. They had not, however, progressed much beyond this point of limited multidimensional observing because there were so few observations that focused on more than two dimensions of movement.



Limited multidimensional observing coincides with Gibson's (1969) notion that in perception of situations such as a physical education lesson, one is faced with complex, changing environmental stimulation. Until one becomes skilled at detecting relevant stimuli and disregarding irrelevant stimuli, one must use more of one's processing resources to make such detections. As Norman and Bobrow (1975) have stated, there is a limited amount of processing resources. When more resources have to be used to determine relevancy from irrelevancy, a smaller amount of processing resources is available for the stated observations. As beginning observers these preservice teachers would have had to allocate more resources to detecting stimuli and, therefore, would not have had available the resources to process the complexity of a movement. It appears, then, that they reduced the complexity of the perceptual environment by attending to only one or two dimensions within the body, space, effort, and relationship aspects.

According to Gibson (1969), the choice of which aspects or dimensions to focus attention on would be based on the distinctive features of stimuli. Newton (1976) stated that familiarity with observing behavior in a recurring type of situation helps the observer develop a set of criterial distinctive features used to direct attention. The set of features should be the same for all observers

with the same purpose. Thus, observers with little experience would not have well-developed sets of criterial distinctive features and would focus their attention differently. Such was the case with the preservice teachers in this study. With limited experience in observing physical education lessons in the field experience setting, they would not have had the opportunity to develop and edit a set of features to use in observing.

The predominant features selected for attention varied widely within the group for each of the three lessons: games, gymnastics, and dance. For example, in the games lesson Preservice Teacher 1 primarily attended to the relationship aspect of students' movement responses, when she stated "They are doing much better but they still tend to crowd each other. Perhaps it's just the space in the room and the number of participants, but they, they always seem to get too close together when they're passing." Preservice Teachers 5 and 6 when observing the games lesson made few observations about relationships but made observations about the activity dimension of the body aspect mostly. In the gymnastics lesson Preservice Teachers 2, 3, and 4 made no observations in the effort aspect but Preservice Teacher 6 focused mainly on the weight dimension in the effort aspect, along with the activity dimension in the body aspect. In the dance lesson

Preservice Teachers 1, 3, and 5 made no observations about the spatial aspect of the dance lesson while Teacher 2 did. For example, she stated "They don't seem to be using the spaces well. They are all over in one corner where the teacher is. Ah, most of them."

While there were differences for the group in what they observed in the games, gymnastics, and dance lessons, there was one similarity which actually involved what they did not report. None of the six preservice teachers reported seeing relationships in the dance lesson while they did make statements about relationships in the games and gymnastics lessons. Although relationships were not a major focus of the dance lesson with no equipment being used or partner or group work required, the preservice teachers did not report seeing those relationships that were occurring. For example, little mention was made of the relationship of body parts to one another as the children were rising and sinking, and no mention was made of the relationship of the parts of the dance sequence that was put together by the children near the end of the lesson. None of preservice teachers reported seeing the relationships that existed in the dance lesson. It is assumed that this similarity was generated by the movement content of the dance lesson and was not the result of some characteristic

mode of observing across all observational situations as this similarity did not occur in the games and gymnastics lessons.

#### Attention to Organizational Tasks and Patterns

The preservice teachers were aware of and made observations about the organization of the children for the lesson but only when there was a shift in the organizational pattern. There were two points in the games lesson and one point in the gymnastics lesson at which all the preservice teachers made observations about the organizational pattern of the children. It was at these three points that actual shifts in the organization of the children were made.

At one point in the games lesson the field experience teacher shifted from having all the children working at the same time to having only half the children working at once. The teacher divided the class in half and requested that half of the children stand on the side of the gymnasium and wait. The other half spread out in the entire gymnasium space to work on changing speed while propelling a yarn ball with a hockey stick. The teacher selected this organizational pattern because the number of children in the class inhibited their ability to increase the speed of their movement. The children switched places after a

brief period and the other half had increased space in which to practice. The change from all the children working at the same time to only half the children working apparently attracted the observer's attention. The statements made about this organizational shift follow:

Just half the group putting it in their space.

The instructor is now dividing the class.

Now they're to use more space. Though it will be interesting to see if they get more out of control since they have more space. They may try to go too fast and they're not under control with more space.

Now she's breaking the group into half so that the people on the floor will have a bit more space.

O.K. now we've taken part of the group away and given them a little bit more room to move.

At another point in the games lesson the teacher shifted the organizational pattern from individual work to partner work: The children were asked to pass a ball to one another while travelling forward. They had preselected their partners and organized themselves very quickly and quietly into this pattern. Examples of what was reported to be seen relative to this shift in the organization pattern follow:

O.K. now we're going to partner up . . . . There's not much question about who's going to go and who's going to stay. They just seem to, one person takes the ball and walks off. That's quite interesting to me.

(They're) coming out to be getting into groups of two again.

In the partners there's girls with girls and boys with boys. It's not much of a mixture.

The third point at which the organizational pattern of the children was emphasized came in the middle of the gymnastics lesson when the children brought out benches and boxes from the side and arranged the apparatus on the floor. The children had been working individually on mats prior to this. The addition of the gymnastic apparatus for use during the lesson was a major change in the organization of the class. As the children in the field experiences center are skillful at exchanging and arranging equipment and apparatus quickly and quietly, it is not surprising that some of the observations made about this organizational shift noted the children's efficiency at doing so. The following statements are samples of the preservice teachers' comments about this organizational shift and their evaluation of it:

Well, they did that organized. They set up the equipment and then they all sat down. Good organization.

They do this almost more efficiently than we do.

Taking out and putting up the equipment went very smoothly.

Brought out the benches, and boxes, and stools.

O.K. they're putting the equipment up. Here again I like to watch this because they really are very organized. They do very well.

There is an organizational pattern for children at all times during a lesson, but unless it was highlighted

in some manner or was changed it was not reported by the preservice teachers in this study. For example, the dance lesson was conducted entirely in a scatter formation for organization with each child working individually. There were no observations about this organizational pattern in the dance lesson. This lack of attention to organization in dance is supported by Arnheim's (1969) proposition that the most constant of a stimulus' features is the most easily overlooked. It appears that because the organizational pattern in the dance lesson never changed it was not reported to be observed.

#### Nonmovement Characteristics of Students

All preservice teachers in this study made observations about nonmovement characteristics of the students in addition to those associated with their movement responses. The substance of these observations most often was the appearance of student enjoyment, the ability of the children to follow directions, and the ability of the children to listen. Nonmovement characteristics observations were made across all lessons with two exceptions. Preservice Teacher 3 made no such observations in the dance lesson and Preservice Teacher 5 made none in the games lesson. The following are examples of nonmovement characteristics observations:

And they all seem to be very involved and really, you know, having a good time which I think is also very important that they enjoy it. (Games Lesson)

The kids sure follow directions very well, very well.  
(Gymnastics Lesson)

They all seem real receptive to what she is saying,  
listening real well. I guess they do that all the  
time. (Dance Lesson).

Although not a large number in any lesson, this type of observation was made by all preservice teachers. The children participating in the field experience lessons were selected because of their well-developed ability to listen and follow directions. It might, therefore, be surprising that there were not more observations about their nonmovement characteristics. It should be remembered though that the observers knew the children from having participated with them in games lessons that were a part of the PE 359 course field experiences. The observers were becoming familiar with the children's on-task behavior and were probably not impressed by it any longer. It appears that these observers were past the point of the children's behavior capturing their attention and could focus their attention on other facets of the lesson such as the students' movement responses.

#### Perceptual Processes

A study of the thinking aloud (TA) and stimulated recall interview (SRI) protocols revealed that these preservice teachers employed a number of different perceptual processes



while observing the field experience lessons. These processes were (a) expectancy set (Dember, 1960), (b) contrasts (Arnheim, 1969), and (c) evaluation (Fassnacht, 1982).

### Expectancy Set

Set is one of the major principles guiding organization of the perceptual environment. In defining set Dember (1960) stated that "stimulation does not impinge on a passive organism. Rather, the individual is differently prepared, or set, for different inputs . . . . Set may be thought of as a type of context provided by cognitive conditions rather than simple stimulus conditions" (pp. 303-304). Sets become the frame within which observers direct their attention. Preservice teachers were considered to have demonstrated evidence of an expectancy set when they made a statement about some facet of the lesson prior to that event's occurrence or when they revealed during the SRI that some particular behavior had been expected. The TA protocol of Preservice Teacher 1 revealed that she expected the children's landings from jumps to become more efficient as the lesson progressed. She stated:

They're travelling all about the room running with easy jumps and soft landings. As you can hear there aren't, there are not very many soft landings right now. I think in the beginning of anything like this they get very keyed up and they're excited and they're just getting a lot of energy out and not really thinking about soft landings, or actually what they're doing. And I think as the class progresses this should change and they should become better.

At two points later in the lesson she made observations about the landings; the first suggested the children still were not landing efficiently, and the second indicated the children were making progress.

Preservice Teacher 6 expected to see height in jumping during the gymnastics lesson. He made the following observation while the children were jumping, landing, and rolling from the gymnastic apparatus:

I didn't see a whole lot of concentration on height in the jump. I don't know if it's the fact that they're, they seem a little scared to jump off the high place or it's because they're more concentrating on getting down for a roll. I don't know. There's a little bit. The one that just went off the center platform, she got in the air pretty well. For the most part I'm not seeing the height that I expected. Especially some of these guys who tend to think of themselves as athletic, I would expect to see a little more from them. But I really haven't seen that and I am surprised. The girls are the ones that seem to be concentrating on getting up in the air.

During the SRI he indicated that the boys in his school always tried to get as high as they could when jumping especially from an elevated position. He expected that these boys would try to do the same and was surprised when they did not.

The SRI protocol revealed that Preservice Teacher 5 had an expectation concerning the relationship between the amount of previous experience with games equipment and control in using that equipment. (In the portions of the SRI protocols that are used for examples PT is the preservice teacher and I is the interviewer.)

PT: If they had never touched the stick like that before, I would have expected the ball to go off anywhere.

I: Why do you think you have that expectation that if they've never handled that kind of equipment before they would be out of control?

PT: I would expect it because the long extended stick and the small head and the ball. With these yarn balls though it kind of makes it an easier task.

As the last example, Preservice Teacher 6 seemed to have a preconceived notion of how sixth-grade students would behave in a physical education setting. During the SRI he said:

PT: There wasn't much running, uncontrolled running. When the instructor was talking they all paid attention and they weren't playing and running and just ignoring the teacher.

I: Why do you think you noticed that?

PT: Because it doesn't fit my image of a bunch of sixth-graders, you know? It really doesn't.

These preservice teachers had developed expectancy sets which appeared to be rooted in (a) the verbal behavior of the field experience teacher, (b) their teacher education curricular experiences, or (c) their own personal background experiences. Their expectancy sets were, therefore, particular to the individual.

The teacher's verbal behavior. Of all the expectancy sets, the teacher's verbal behavior appeared to be particularly powerful in directing the preservice teacher's attention during the lessons. Examples follow from the TA protocols with the phrases underlined that reflect that the observer had heard what the teacher had said:

She's going to talk to them right now about extending your body so we'll see if they do it. She talked about your arms and your legs helping you to jump higher. (Gymnastics Lesson)

O.K. we're suppose to be changing directions this time so let's see how that goes. O.K. I see the fella right in front of me right now in the blue and white warmup, he seems to be changing direction pretty well. (Games Lesson)

Now she's telling them about getting their arms and legs into the jump so that, that ought to make them a little better at that.

O.K. I noticed her saying don't worry about what other people are doing. I'm going to be interested to see if that's the case. (Dance Lesson)

Although there were relatively few comments about what the teacher did or said specifically, her verbal presentation of the task to the students and her feedback directed the attention of the observers. Support for this finding is that observations about student movement were often made in the precise vocabulary used to give the task. Also, the first observation made after a change in task was directed toward the change requested by the teacher.

The influence of the teacher's verbalizations in directing observing could again be a reflection of the PE 359 course. Observations made during the field experience lessons for that course as an aid in guiding their attention were often directed toward listening to the teacher for cues on what to look for. It is possible that these pre-service teachers could have carried that strategy over to their observations of the games, gymnastics, and dance

lessons as part of this study.

Teacher education curricular experiences. During the interview sessions it became clear that the teacher education curricular experiences of the observers contributed to set expectancies in ways other than directing their attention to the teacher's verbal behavior. The informational content of their coursework and their own course-related movement experiences appeared to have focused the observer's attention by creating set. During the SRIs, references were made to previous or concurrent coursework when they were asked to account for their observations, as can be seen in the following examples:

I: They've been asked to jump off of the equipment and land softly. From your comment you are looking at the extension in their bodies; extending their arms. Why do you think you focused on extension? What caused you to notice that about their jumps?

PT: I think that just came from being out there this semester with Dr. Ross and her working on it with us and just realizing that's, that's what needs to be there.

I: Why do you think you saw the relationships between the different parts of what the children had been asked to do?

PT: Again, it's just something that Dr. Ross had talked about, just, almost the day, I guess the class period before when we were observing. She was talking about how that was, I forgot exactly how she put it, an elementary stage, an early stage of rolling, this immature stage of rolling. You roll and open up in the pelvis. You don't stay rolled. And I noticed that this guy right here, right in front of the camera, did it the whole time.

I: Why do you think you noticed the inefficiency?

PT: I just had 210 last semester with Dr. Tom.

Personal background experiences. In addition to selected teacher education curricular experiences, personal background experiences seem to have had a role in directing the attention of the observers. For example, Preservice Teachers 2 and 3 referred to previous coaching and sport playing experience, respectively, in accounting for their observations:

I: All throughout the whole lesson you have mentioned things like the hand position on the stick, the ball in relation to the body or to the stick, whether a child was standing up or had knees bent, and so on. Why do you think you mentioned all those different things about what you were observing?

PT: It all comes from coaching a group of girls. When I coached I was very interested in before we could even be halfway decent we had to get the body positions. We had to at least know what our body was supposed to do in relationship to a ball.

I: Why do you think you noticed the hand position? What was it about the hand position as far as the way they were doing it?

PT: I guess I noticed according to the way they would hit the ball. I'd say they were doing this. I wonder why they're doing this and somebody else isn't doing this. So I just looked, I don't really know why I looked at the hands. Maybe because I play golf a lot and hand position is important when you're playing golf.

Experiences which had particular meaning for the individual appear to have sensitized the individual toward noticing a particular situation.

### Contrasts

Arnheim (1969) proposed contrast as a stimulus feature to be apprehended by an observer. He believed that in conjunction with similarity, contrast would be employed as

the perceptual process when no other features were dominating the attention of the observer. The perceptual process of contrast was used by all six preservice teachers to make observations during all three lessons. Observation by contrast was evidenced when a teacher compared similar elements of the lesson to highlight their dissimilar qualities as seen in these examples:

Some of them are down low with their knees bent. Others are just standing straight up. (Games Lesson)

Some of them are using two hands on the stick, others using one. (Games Lesson)

Some of them stick their hands up and lead. Some of them just use their head and let it lead going up. (Dance Lesson)

Some are making a contrast effort to run softly. Some are just running. (Dance Lesson)

Mainly it was the way they controlled the ball. Some were just chasing it down and hitting it when they caught it. Some were taking it with them as they moved and keeping control of it (Games Lesson)

From these examples, it can be noted that the particular stimulus property that was reported as a contrast varied with the observation. Gibson (1968) stated that attention in the very young infant is a kind of capture by compelling stimulus properties. Only gradually, she believed, did one develop a more and more systematic search pattern in voluntary attention. It makes sense that the development of attention would occur similarly in the neophyte observer of a particular perceptual situation. Preservice teachers with limited

experience in observing physical education lessons would be likely to observe by attending to compelling stimulus properties. Such was the case with this group of relatively inexperienced preservice teachers. Compelling stimulus features seemed to command their attention, particularly speed of movement. A child who was moving faster or a part of a movement that was performed faster than the other parts was reported by the observers as the feature that caught their attention. The identification of speed as a compelling feature was used for contrast by all preservice teachers more than any other stimulus feature. While fast movements were captivating, so were extremely slow movements. The following three examples illustrate the compelling nature of speed of movement and how it was used for contrast:

PT: When I first start observing something I look over the whole group. That's anytime I've ever observed anybody that's just always what I've done. Just kind of I look out over the whole group at first and maybe somebody will catch my eye like just, ah, if somebody breaks a real quick move for the ball or something. It's just something quick out of the whole pattern of motion, something quick like that, that will catch my eye. And I'll watch that person for you know, a long time. Or, somebody is moving through the crowd real quick, you know, and seems to be getting through pretty well, I'll watch them for a second or two and just see how it is they are manipulating it so well. And it's just usually, I'll look out over the whole crowd and something, something is different maybe. Maybe an awkward movement or a real fast movement or something that will catch my eye and that's what I look for.



I: You talk about how serious the children appear about what they are doing. What did you see that made you think they were serious, that they were concentrating? What was the visual cue for that?

PT: The visual cue? I think mainly it was the fact that they were rising so slowly. And I felt that the slower they rose, I don't know if that's good English, but ah, the more concentration it took.

PT: Well, I noticed that some were going faster than others and the ones that were going faster were running into the ones that were going slower. And I saw that it created the jumble.

When speed was identified as the compelling feature of attraction for a particular observation, it was not necessarily the focus of the observation but rather why it was noticed. For example, Preservice Teacher 6 made an observation about a child handling the hockey stick and ball well by moving the stick from one side of the ball to the other. During the SRI the preservice teacher stated that the quickness of the movement was the reason his attention went to that child. His reported observation, however, was about the relationship of the stick to the ball.

### Evaluation

All preservice teachers consistently used the process of evaluation in all lessons when stating their observations. Throughout every lesson all observers evaluated the students' movement responses; however, they only evaluated organizational tasks and nonmovement characteristics of students in some of the lessons. Examples follow with the words denoting the evaluative process underlined:

She's working on change of speed, accelerating and decelerating but she isn't going to tell them when to speed up and to slow down. So they get to choose that themselves. I think this is good also because as they become more skilled at it they can speed up at their own rate. (Games Lesson)

I think as a whole that was the best they've done of all stopping in this dance. They seem to be getting better. That was the best in just this lesson. (Dance Lesson)

The kids are doing a fairly good job of keeping their distance, not running into each other. (Games Lesson)

I'm seeing pretty good variety, when they're asked to do two rolls in two different directions. Lots of different rolls. Lot of very good rolls. (Gymnastics Lesson)

That was a pretty jump by the little boy in the red. (Gymnastics Lesson)

They're doing, or trying to do, a little bit of tipping now. And it seems to be difficult for some of them because they're not stopping in the middle of their run, and then stand. They're just stopping flat footed so it's hard for them to tip. Well, a couple do a very good job. Ah, one little boy that had on a Patriot sweatshirt, he did a real good job of stopping in the middle of this dance. But then right before she gave the signal to tip and go, he dropped back and was just standing there. (Dance Lesson)

The evaluative observations made by the preservice teachers were of two kinds: those with no indication of the criteria upon which the evaluation was based and those which included the criteria. For example, in the fifth observation from the previous section, "That was a pretty jump by the little boy in the red," there was no mention of what was "pretty" about the jump. It is not known from the observation what was seen specifically by the

observer to warrant this judgment of "pretty". In the sixth example, a different preservice teacher did include the criteria upon which she based her judgment of the tipping movements of the children. In this case she indicated that the rationale for her judgment was the flat-footed position in which the children had stopped from their run. Later in the observation she evaluated individual children by saying they were doing a good job presumably because they were not stopped flat-footed.

From an analysis of the evaluative observations made by these preservice teachers it is not clear upon which criteria their judgments were based, or if they had any. This leads one to suspect that their evaluations were made too quickly and without first seeing objectively what was there. Barrett (1984c) has suggested that learning to observe objectively is the first step in becoming a more skillful observer. She hypothesized that skillful observers observe objectively first and then make a judgment. They appear to withhold their judgment until they have enough supporting objective observations. These preservice teachers' lack of experience in observing elementary school physical education lessons may be the reason they tended to make so many evaluative observations without stating the criteria for such judgments, or, perhaps, they did not feel it was necessary to state it.

### Strategies for Observing

A study of the data revealed that these preservice teachers organized their perceptual processes into the beginnings of some types of observational strategies. Although this was not addressed specifically in the research questions of this inquiry, the information about the emergence of rudimentary strategies for observing was thought to be an important finding and is therefore included in the discussion. The TA and SRI protocols revealed that the teachers had observational strategies, were aware that they did, and reported that they employed them. The six examples that follow illustrate the different observational strategies that were reported:

PT: Something like this it's easy to scan the whole room when they're all doing something real basic like that. When they're getting into, you know, getting on equipment, doing something, then rolling I look at just one or two.

PT: I know for some reason I always watch spacing any way.

PT: I was trying to see if I could see two people try to roll backwards almost at the same time.

PT: I've just learned or I've just developed some things that I always look for. Stopping is one thing. And we did the sinking, you know, and everything. That's something else I watch. I watch to see body control all the way to the floor. There's a point where your muscles don't hold you anymore and the gravity's pulling you and you flop. Little kids have a whole lot of problems with it. And I was hoping this group would not.

I: Why do you think you were focusing on so many different children individually in that series?

PT: That's a good question. I guess I want to notice every child that, that comes in there. Like when we watch you teach the other ones, I try and notice everyone of them because somebody I figure, if you don't notice them, then you're going to miss what they did that one day. And so I'm real interested in seeing what every child is doing. Even when they're all raising their hands, you can't have all them answer. I wish all of them could answer.

PT: Dr. Clare always says watch them but don't evaluate them. She actually worked with us about don't evaluate, just say what they're doing. So I don't think I was evaluating them really. Well, maybe when I said something about the way they were landing. I was probably evaluating there. It was mixed; evaluation and observations.

From these examples, it appears some of the teachers had strategies concerning (a) where to focus attention, (b) what to look for, and (c) what processes to employ or not. It is obvious that even though these teachers reported the use of the outlined strategies, they did not employ the strategies consistently across their observations. For example, the preservice teacher quoted in the first example as saying he focused on the class in basic tasks and then individuals when rolling on the gymnastic apparatus did not report one observation of any individual student during the entire gymnastics lesson. Although he stated he possessed the strategy, his observations did not reveal the use of such strategy. The preservice teacher in the last example who stated she was trying not to be evaluative made a large number of evaluative comments in each lesson.

While the observers acknowledged the influence of their coursework on the development of such strategies, the strategies did not hold in this observational situation. Their limited experience in observing may be the reason the strategies were not employed consistently.

#### The Relatedness of Content and Processes

From the TA and SRI data in this study no indication was found to support the idea that certain observational content (e.g., students' movement responses, organizational tasks and patterns, and nonmovement characteristics of students) might be related to certain perceptual processes (e.g., set, contrast, and evaluation). For example, the perceptual process of contrast--that is, comparing similar elements to highlight their dissimilar qualities--was used by the preservice teachers to make observations in the different categories of content. The following three examples illustrate the use of contrast in making observations in the content categories of students' movement responses, organizational tasks, and students' nonmovement characteristics:

Some of them are down low with their knees bent. Others are just standing up. (Games Lesson)

They do this (setting up the gymnastics apparatus) almost more efficiently than we do. (Gymnastics Lesson)

A couple of the girls aren't following directions. They're just doing more or less what they want . . . . Most of them are doing what's asked. (Gymnastics Lesson)

Three possible explanations for the apparent lack of relatedness between content and process are given. First, the perceptual task asked of the observers was too open. It should be recalled that the task given to these preservice teachers was such that they could "attend to anything they wished." The perceptual task requested of subjects greatly influences what and how perceptions are made (Arnheim, 1969; Ericsson & Simon, 1980; Garner, 1974; Gibson, 1969). This task was what Norman and Bobrow (1975) called a task demand with broad, general requirements. The perceptual processes employed by these preservice teachers may, therefore, have been limited by the lack of structure of the perceptual task. Second, the information available in the perceptual environment, from which the content of observations were derived, was both plentiful and highly complex. The observers could have been overwhelmed by the informational content of the environment and, consequently, may have been restricted in employing their perceptual processes. Third, the openness of the directions given the children during instruction may have restricted the specificity with which these preservice teachers reported they could see. Instructional tasks in educational games, gymnastics, and dance often allow for varying responses. Thus, the observers could not always anticipate what the children would do. With more specific directions the

observers might have been forced to employ certain perceptual processes, which might guide them to observe more detail.

Caution should be used in interpreting the findings of the present study in the light of Hoffman's (1982) contention that no generic ability to observe exists. It must be pointed out, however, that in this and the Hoffman study the perceptual tasks asked of the observers and the perceptual environments created for them differed from one another in complexity and specificity. The relative inexperience of these preservice teachers in observing elementary school physical education lessons may have contributed to the three possible explanations given for the lack of relatedness of content and process.



## CHAPTER V

### SUMMARY AND IMPLICATIONS

#### Summary

The purpose of this study was to describe what and how preservice physical education teachers observe in an unguided, early field experience. The investigator probed directly into the observations made by preservice physical education teachers during elementary school physical education field experience lessons in order to determine what and how they observe.

Two introspective data collection techniques were used to gather verbal reports: thinking aloud and stimulated recall interview. The six, junior-level preservice physical education teachers in this study were asked to think aloud into tape recorders what it was they were seeing as they observed three, 15-minute field experience lessons--one each in educational games, educational gymnastics, and educational dance. This method produced a TA protocol for each teacher's observations. The lessons were video-taped.

Within a week of the field experience observations the preservice teachers were interviewed by the investigator. The videotape of the lessons and a copy of the TA protocols stimulated the teachers to recall the lessons.

During the interview they were asked to account for their observations, that is, they were asked why they had made certain observations. The interviews were audiotaped and the SRI protocols were transcribed.

Both the TA and SRI protocols were studied and analyzed using a modification of the constant comparative analytic strategy in order to describe the content and the perceptual processes used by preservice physical education teachers while observing in an unguided, early field experience. The data were also studied to determine the relatedness, if any, of content and process. The findings are summarized by the statements of purpose.

Identify the content of selected preservice physical education teachers' reports of what is observed in the role of non-participant observer in an unguided, early field experience

1. The preservice teachers in this study reported observations about (a) the students' movement responses, (b) organizational tasks and patterns, and (c) students' nonmovement characteristics as they observed games, gymnastics, and dance lessons.

2. The preservice teachers appeared to be oriented towards observing the students' movement responses as more observations were made about students' movement than any other facet of the lesson. This was consistent for

all preservice teachers across all lessons. This orientation was thought to be a reflection of recent teacher preparation course experiences.

3. Observations about the students' movement responses were most often made in the activity dimension of the body aspect in all three lessons. Some attention to detail in the students' movement, however, was noted in these preservice teachers because they were able to attend to two and sometimes three dimensions of movement at one time with one almost always still the activity dimension.

4. The preservice teachers when observing focused their attention on different dimensions of movement. It was suggested that they did not have well-developed sets of criterial features to help focus their attention similarly because of their limited observational experiences.

5. Observations about organizational tasks and patterns seemed to be reported only when such tasks and patterns were shifted by the teacher during the lesson.

6. Observations about students' nonmovement characteristics, while present, were limited to a relatively small number of statements and were primarily about student enjoyment, their ability to follow directions, and their ability to listen well. This may be the result of the observer's familiarity with the students from previous field experiences.

Identify the perceptual observational processes characteristic of selected preservice physical education teachers in the role of nonparticipant observer in an unguided, early field experience

1. Observers in this study relied upon (a) expectancy set, (b) contrast, and (c) evaluation as a part of perceptual process.

2. Sets were found to be rooted in (a) the verbal behavior of the field experience teacher, (b) the preservice teachers' teacher education curricular experiences, and (c) their own background experiences. As these experiences were personal, the sets created were unique.

3. Speed of movement was the most compelling stimulus feature to be contrasted by these preservice teachers, and attracted their observational attention most often.

4. The preservice teachers in this study evaluated what they were seeing in every lesson across all content categories most of the time. Some evaluative observations were supported while others were not.

5. The beginnings of rudimentary strategies of observing were evidenced by the preservice teachers, involving (a) where to look (b) what to look for, and (c) what processes to employ or refrain from. While they reported attempting to employ such strategies, they were inconsistent in their efforts to do so. It was assumed that their limited experience

in observing elementary school physical education resulted in the inconsistent application of strategies for observing. Identify the relatedness, if any, of reported content to perceptual processes used by selected preservice physical education teachers in the role of nonparticipant observer in an unguided, early field experience

There appeared to be no relatedness between the content of observing and the perceptual processes employed while observing by preservice physical education teachers during an unguided, early field experience. The lack of this relatedness emerging from these data may have been influenced by the nature of the perceptual environment and the perceptual task.

#### Implications

Based upon this study two implications are suggested: one for teacher education and one for research.

Teacher education. Knowing what and how these preservice physical education teachers observed without guidance suggests that they need additional guided practice to further develop skillfulness in observing prior to student teaching. They need assistance particularly in reducing the complexity of the perceptual environment, in distinguishing relevant features by focusing more attention on the detail of the movement being performed, and in using supportive criteria for evaluative observations. Without guidance they tended to be overwhelmed by all that was going on in the physical

education lessons and, therefore, could not attend to much detail. Guidance appears to be necessary in helping preservice teachers recognize that being evaluative too early when observing may result in interpretations that are based on inadequate and incorrect observational information. In addition, guidance may be necessary to help develop a range of observational strategies that can be used more fully by preservice teachers in a more consistent manner.

Research. Research about observing (e.g., what and how to observe) is still in the beginning stages. Based on the findings of this study the following three variations of this design are suggested: The data could be collected using both longitudinal and cross-sectional strategies.

1. Study the preservice teacher's reports of observations under different conditions of guidance by giving them perceptual tasks of varying structure.

2. Study the preservice teacher's reports of observations within a series of lessons in the same three curricular areas in which the movement content of each lesson is developed more fully.

3. Study the perservice teacher's reports of observations when varying the responsibilities they have for the children in the class (e.g. none, assisting, teaching).

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APPENDIX A  
CONSENT FORMS

PAMELA C. ALLISON

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School of HPERD, University of North Carolina-Greensboro, NC,  
27412 (919) 379-5347

5500 High Point Road, Greensboro, NC, 27407 (919) 852-8468

February 16, 1983

Dear Junior:

This letter is a request for your participation as a subject in my dissertation research as a doctoral candidate in physical education at the University of North Carolina at Greensboro. The focus of my research is the observational content of and the perceptual observational processes used by preservice physical education majors during a field experience.

Dr. Barrett has graciously consented to allow me to collect my data during one of the regularly scheduled Friday meeting times for 359. I will be explaining to you the procedures of the study and exactly what is being requested from you. After hearing the explanation, if you give your consent, please sign, give address, and date the attached Informed Consent Form and return it to me. If at some point after you have given your consent, you wish to terminate your participation as a subject, please notify me in writing and you will no longer be considered a subject in the study.

Thank you for your interest in my research. I look forward to hearing from you favorably.

Sincerely,



Pamela C. Allison, Graduate Teaching Assistant  
Physical Education Division, School of HPERD

THE UNIVERSITY OF NORTH CAROLINA AT GREENSBORO  
SCHOOL OF HEALTH, PHYSICAL EDUCATION & RECREATION

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SCHOOL REVIEW COMMITTEE

INFORMED CONSENT FORM \*

I understand that the purpose of this study/project is  
to identify the observational content of and the perceptual  
observational processes used by preservice physical educa-  
tion teachers during an early field experience.

I confirm that my participation is entirely voluntary. No coercion  
of any kind has been used to obtain my cooperation.

I understand that I may withdraw my consent and terminate my  
participation at any time during the project.

I have been informed of the procedures that will be used in the  
project and understand what will be required of me as a subject.

I understand that all of my responses, written/oral/task, will  
remain completely anonymous.

I understand that a summary of the results of the project will be  
made available to me at the completion of the study if I so request.

I wish to give my voluntary cooperation as a participant.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Address

\_\_\_\_\_  
Date

\*Adopted from L.F. Locke and W.W. Spirduso. Proposals that work.  
New York: Teachers College, Columbia University, 1976, p. 237.

Approved 3/78



**PAMELA C. ALLISON**

School of HPERD, University of North Carolina-Greensboro,  
Greensboro, NC 27412 (919) 379-5347

5500 High Point Road, Greensboro, NC 27407 (919) 852-8468

February 16, 1983

Dear Parents/Guardian:

This letter is a request to allow your daughter/son to be a participant in my dissertation research as a doctoral candidate in physical education at the University of North Carolina at Greensboro. For the last two years I have coordinated the university's Physical Education Division Field Experiences Center at Price and am familiar with the setting there. This is one reason I have requested to do my research at Price.

Your daughter/son will not be a subject of the study. The subjects are junior physical education majors from the university who will be participating in a field experience attached to a regular university course. For the field experience, the majors will be asked to observe a physical education lesson. The study will attempt to describe the content of their observations.

Mrs. Baynes' sixth grade class has been selected as the class for the physical education lessons. Although your daughter/son is not one of the subjects, the lesson will be videotaped. I am requesting your permission for your daughter/son to be videotaped during participation in the lessons. No data will be collected on any individual child and your child will remain anonymous throughout the study. The videotape will be retained as an artifact of the study.

I have received permission to conduct my research at Price from both the Greensboro Public School's Research Review Committee and Mrs. Happy Brown. I hope to hear from you favorably about your daughter/son's participation in my study. If you give your permission, please sign and date the attached Consent Form and return to Mrs. Baynes. If you need additional information please feel free to contact me at the university, 379-5347, or through Mrs. Baynes. Thank you for your interest in my research.

Sincerely,

*Pamela C. Allison*

Pamela C. Allison, Graduate Teaching Assistant  
Physical Education Division, School of HPERD

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CONSENT FORM

I give permission for my daughter/son \_\_\_\_\_  
(child's Name)

to be videotaped during a physical education field experience  
as part of this study.

\_\_\_\_\_  
(Parent/Guardian Signature)

APPENDIX B  
LESSON MOVEMENT TASKS

Outline of Movement Tasks Presented by the Field ExperienceTeacherEducational Games Lesson

- ° Propel the ball around the room with the hockey stick trying to keep the ball close to you.
- ° Start out slowly and when I tell you to, speed up just a little bit.
- ° The people on this side of the room go to the edge. The others, spread out and work on changing speeds, accelerating and decelerating. Now the other group try it.
- ° This time try changing your direction. Sometimes go sideways and backwards as well as forwards.
- ° Find a partner. Try to pass the ball between you as you are travelling.

Educational Gymnastics Lesson

- ° Start with light, easy running around the mats. If you'd like to you can start jumping over the corners.
- ° Work harder on going higher on your jumps.
- ° Go to a mat and begin working on nice, smooth rolls.
- ° Work on putting two rolls together.
- ° Bring out the equipment and sit down beside it. As you travel from piece to piece come off the equipment with a jump and soft landing.
- ° If you would like to, add a roll. Now put the equipment against the wall.

Educational Dance Lesson

- ° We'll start off with light running.
- ° Begin this time with a gradual start, with the drum.
- ° Sink slowly to the floor, then rise, and hold your position.

- ° Open as you are rising and close as you are sinking.
- ° Now travel, sink, and rise with the drum.

APPENDIX C

GROUND RULES FOR DETERMINING AN OBSERVATIONAL  
UNIT IN THE TA PROTOCOLS

### Ground Rules

(/ indicates beginning and ending of observational unit)

1. If no conceptual break occurred in the content within a series of statements then the statements were considered to be one observation.

/She's working on change of speed, accelerating and decelerating but she isn't going to tell them when to speed up and to slow down. So they get to choose that themselves. I think this is good also because as they become more skilled at it they can speed up at their own rate. And then if they see they are losing control they can slow back down again and start the process over and try to gain more control. And they can also see what it feels like to have to change your, how the control changes as you do speed up. And how much more difficult it is./

2. Statements which first focused on the class or group of children and then focused on an individual child but whose content remained the same were classified as one observation.

/Some forgot what they were suppose to do and kept running, and started running.

I think this little black boy in front of me realizes what a gradual start means.

Kellen didn't do a gradual start./

3. When the content remained the same but there was a shift in focus from the student to teacher or teacher to student there was more than one observation.

/It's funny or interesting because as each kid lands they're doing a roll and I don't think she told them to do a roll./ In fact, now she's telling them not to roll/ but its, its, they carried that over from the last exercise and just automatically put it into this exercise which is good because they are realizing that to come off on a high object like that to stop your momentum that a roll is a good way of using it. And they are using it very nicely./

4. Statements of contrast were defined as one observation.

/Some on their sticks have their hands close together.

Some have them far apart./

5. Statements about the movement task followed by statements describing students' movement responses to that task were considered to be one observation.

/O.K. We're suppose to be changing direction this time so let's see how that goes.

O.K. I see a fella right in front of me right now in the blue and white warmup, he seems to be changing direction pretty well.

We've got several going backwards. And alot of sideways. I think they're getting this concept a little bit better than they did the speed variations.

But even now the main focus to me seems to be forward and then sideways and then backwards. Not very much backwards at all./

6. Summary statements made subsequent to the lesson were considered to be one observation no matter the content.

/Their jumps got higher after she told them about their arms. And, but their rolls still, they're not keeping their body tight. And they're not bending their knees when they land.

Now they were quiet through the whole time. That's good./